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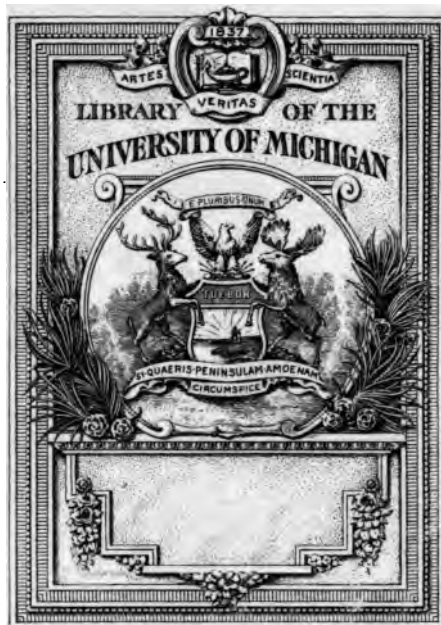
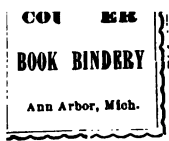
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OF
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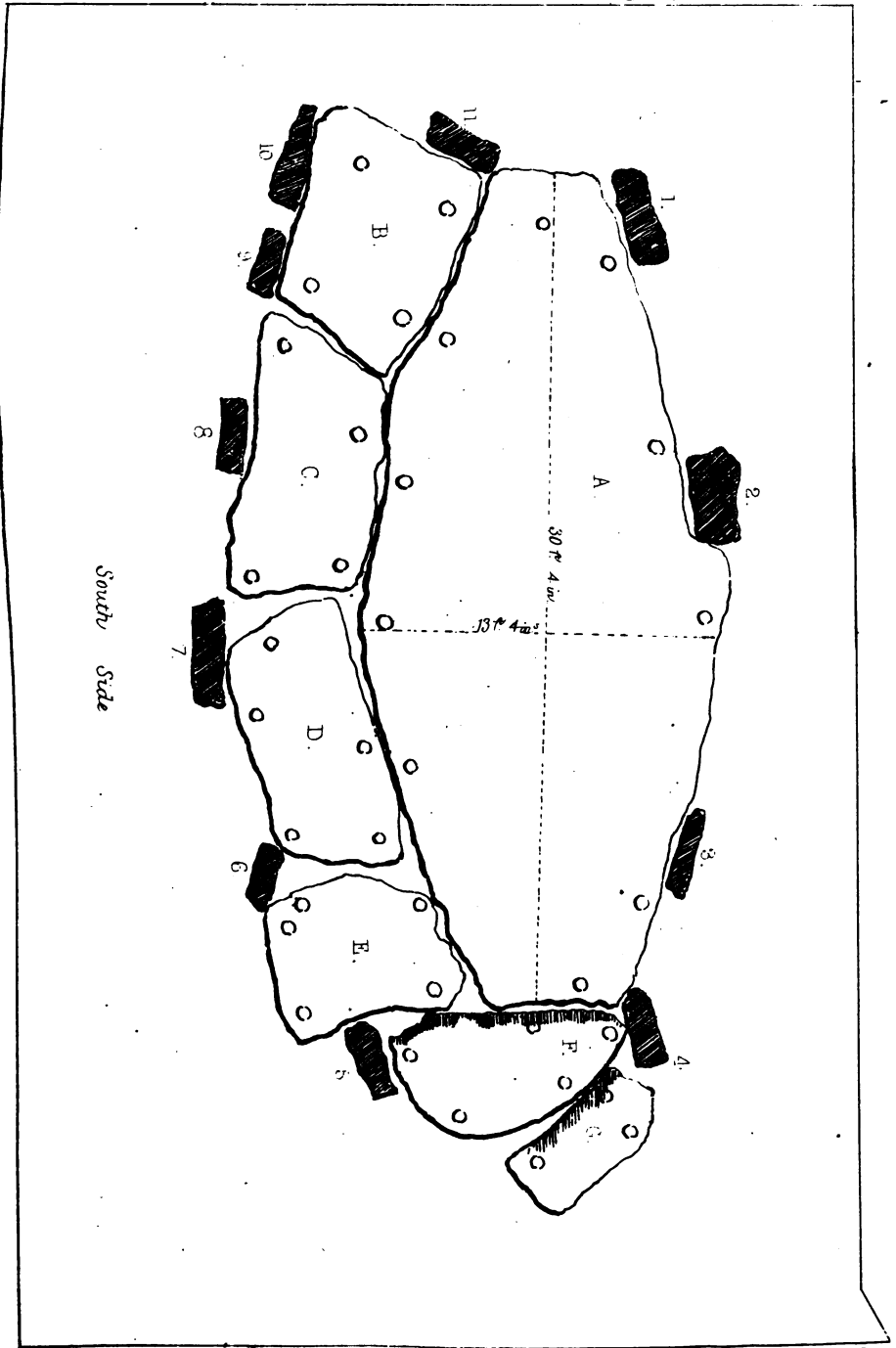
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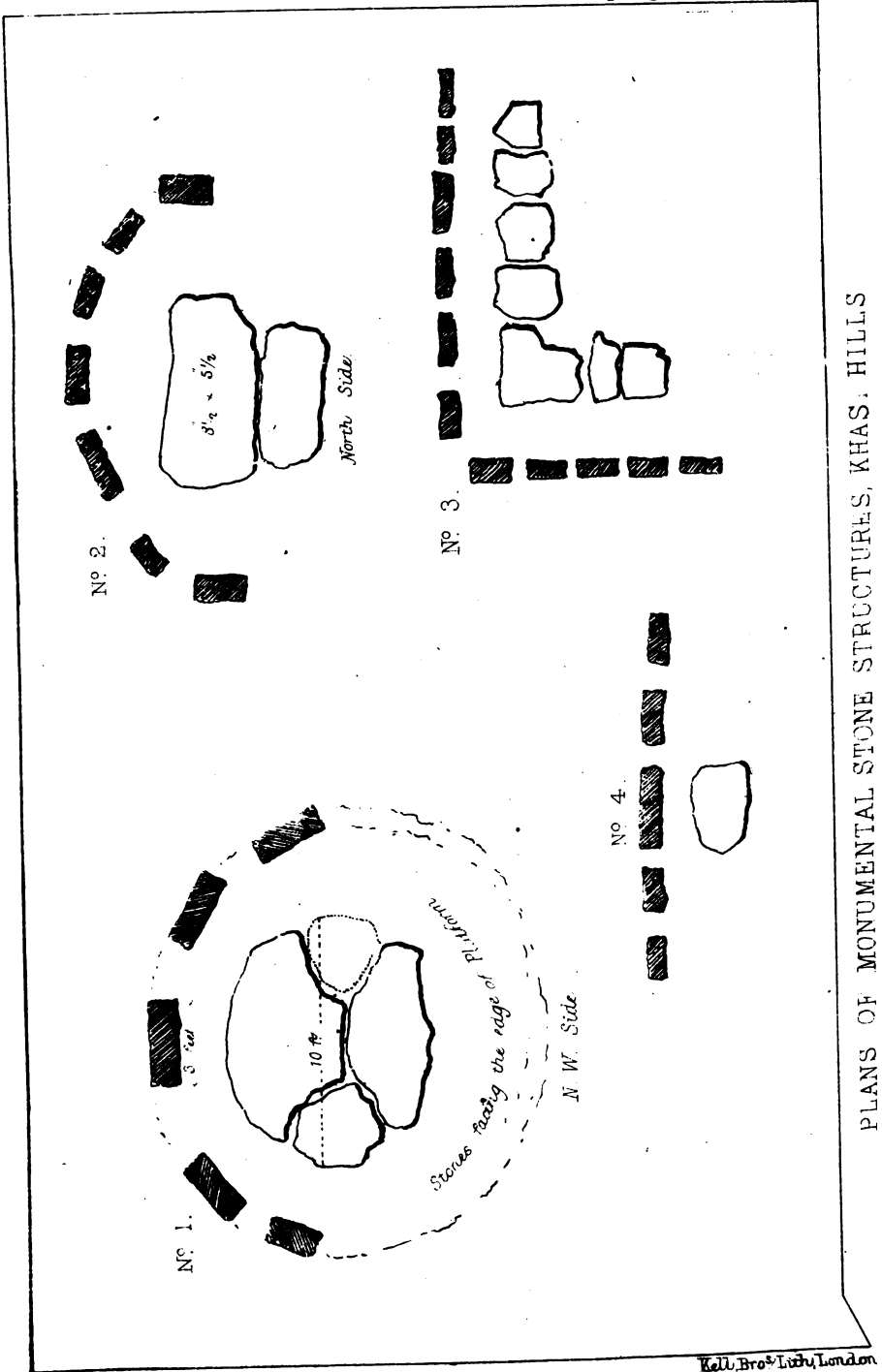




Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

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OBJECTS IN BRONZE & ENAMEL.

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE
OF
GREAT BRITAIN AND IRELAND.

FEBRUARY 14TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

MR. HODDER M. WESTROPP exhibited a worked-flint of tri-radiate form, said to have been found many years ago on Ashey Down, in the Isle of Wight.

The PRESIDENT, having made some remarks respecting the formation of the Institute, vacated the chair in favour of Professor Huxley, V.P., and read the following paper:—

I.—*On the DEVELOPMENT of RELATIONSHIPS.* By Sir JOHN LUBBOCK, Bart., M.P., F.R.S., Pres. Anth. Inst.

MR. MORGAN, whose remarkable memoir, entitled "A Conjectural Solution of the Origin of the Classificatory System of Relationship",* is doubtless well known to many gentlemen present, has now published, by the assistance of the Smithsonian Institution, his promised work on the same subject.† Those who have read his preliminary memoir will naturally have waited for the full development of his views, as well as of the facts on which they are based, with much interest; and they will not be disappointed, for Mr. Morgan's work is certainly one of the most valuable contributions to ethnological science which has appeared for many years.

It contains schedules, most of which are very complete, giving the systems of relationships of no less than 139 races or tribes; and we have, therefore (though there are still many lamentable deficiencies—the Siberians, South Americans, and true Negroes, being, for instance, as yet unrepresented), a great body of evidence

* "Proc. Am. Ac. of Arts and Sciences", vol. vii, Feb. 1868.

† "Systems of Consanguinity and Affinity of the Human Family". By L. H. Morgan. 1870.

illustrating the ideas on the subject of relationships which prevail among different races of men.

Our own system of relationships naturally follows from the marriage of single pairs; and it is, in its general nomenclature, so mere a description of the actual facts, that most persons tacitly regard it as necessarily general to the human race, with, of course, verbal and unimportant differences in detail. Hence but little information can be extracted from dictionaries and vocabularies. They generally, for instance, give words for uncle, aunt, and cousin; but an uncle may be either a father's brother or a mother's brother, and an aunt may be either a father's sister or a mother's sister; a first cousin, again, may be the child of any one of these four uncles and aunts; but practically, as we shall see, these cases are in many races distinguished from one another; and I may add, in passing, it is by no means clear that we are right in regarding them as identical and equivalent. Travellers have, on various occasions, noticed with surprise some special peculiarity of nomenclature which came under their notice; but Mr. Morgan was the first to perceive the importance of the subject, and to collect complete schedules of relationships. The special points which have been observed have, indeed, been generally regarded as mere eccentricities, but this is evidently not the case, because the principle or principles to which they are due are consistently carried out, and the nomenclature is reciprocal generally, though not quite without exceptions. Thus, if the Mohawks call a father's brother, not an uncle, but a father, they not only call his son a brother and his grandson a son, but these descendants also use the correlative terms.

We must remember that our ideas of relationships are founded on our social system, and that, as other races have very different habits and ideas on this subject, it is natural to expect that their systems of relationship would also differ from ours. I have elsewhere* pointed out, that the ideas and customs with reference to marriage are very dissimilar in different races, and we may say, as a general rule, that, as we descend in the scale of civilisation, the family diminishes, and the tribe increases, in importance. Words have a profound influence over thought, and true family-names prevail principally among the highest races of men. Even in the less advanced portions of our own country, we know that collective names were those of the tribe, rather than the family.

Even among the Romans the "family" was not a natural family in our sense of the term. It was founded,† not on mar-

* "On the Origin of Civilisation, and Primitive Condition of Man" Longmans, 1870.

† See Ortolan's Justinian, p. 126 *et seq.*

riage, but on power. The family of a chief consisted, not of those allied to him by blood, but of those over whom he exercised control. Hence, an emancipated son ceased to be one of the family, and did not, except by will, take any share in his father's property; on the other hand, the wife introduced into the family by marriage, or the stranger converted into a son by adoption, became regularly recognised members of the family, though no blood tie existed.

Marriage, again, in Rome, was symbolised by capture or purchase, as among so many of the lower races at the present day. In fact, the idea of marriage among the lower races of men generally is essentially of a different character from ours; it is material, not spiritual; it is founded on force, not on love; the wife is, not united, but enslaved, to her husband. Of such a system, traces, and more than traces, still exist in English law: our customs, indeed, are more advanced, and wives enjoy a very different status in reality to that which they occupy in law. Among the Redskins, however, the wife is a mere servant to her husband, and there are cases on record, in which husband and wife, belonging originally to different tribes, have lived together for years without either caring to acquire the other's language, satisfied to communicate with one another entirely by signs.

It must, however, be observed that, though the Redskin family is constituted in a manner very unlike ours, still the nomenclature of relationships is founded upon it, such as it is, and has no relation to the tribal system, as will presently be shown.

Mr. Morgan divides the systems of relationship into two great classes, the descriptive and the classificatory. The first, he says (p. 12), "which is that of the Aryan, Semitic, and Uralian families, rejecting the classification of kindred, except so far as it is in accordance with the numerical system, describes collateral consanguinei, for the most part, by an augmentation or combination of the primary terms of relationship. These terms, which are those for husband and wife, father and mother, brother and sister, and son and daughter, to which must be added, in such languages as possess them, grandfather and grandmother, and grandson and granddaughter, are thus restricted to the primary sense in which they are here employed. All other terms are secondary. Each relationship is thus made independent and distinct from every other. But the second, which is that of the Turanian, American Indian, and Malayan families, rejecting descriptive phrases in every instance, and reducing consanguinei to great classes by a series of apparently arbitrary generalisations, applies the same terms to all the members of the same class. It thus confounds relationships, which, under the descriptive system, are distinct, and enlarges

the signification both of the primary and secondary terms beyond their seemingly appropriate sense."

While, however, I fully admit the radical difference between, say, our English system and that of the Kingsmill Islanders, as shown in Table I* (opposite p. 27), they seem to me to be rather the extremes of a series, than to be founded on different ideals.

Mr. Morgan admits that systems of relationships have undergone a gradual development, following that of the social condition; but he also attributes to them great value in the determination of ethnological affinities. I am not sure that I exactly understand his views as to the precise bearing of these two conclusions in relation to one another; and I have elsewhere given my reasons for dissenting from his interpretation of the facts in reference to social relations. I shall, therefore, now confine myself to the question of the bearing of systems of relationships on questions of ethnological affinity, and to a consideration of the manner in which the various systems have arisen. As might naturally have been expected, Mr. Morgan's information is most full and complete with reference to the North American Indians. Of these, he gives the terms for no less than 268 relationships in about seventy different tribes. Of these relationships, some are for our present purposes much more important than others. The most significant are the following:

1. Brother's son and daughter.
2. Sister's son and daughter.
3. Mother's brother.
4. Mother's brother's son.
5. Father's sister.
6. Father's sister's son.
7. Father's brother.
8. Father's brother's son.
9. Mother's sister.
10. Mother's sister's son.
11. Grandfather's brother.
12. Brothers' and sisters' grandchildren.

Now let me call your attention to the Wyandot system as shown in Column 8 of Table I. It will be observed that a mother's brother is called an uncle; his son a cousin; his grandson a son when a male is speaking, a nephew when a female is speaking; his great-grandson a grandson. A father's sister is termed an aunt; her son a cousin; her grandson a son; her great-grandson a grandson. A father's brother is a father; his son a brother, distinguished, however, by different terms, ac-

* I have constructed this table from Mr. Morgan's schedules, selecting the relationships which are the most significant, and arranging them in a manner which seems to me more instructive than that adopted by Mr. Morgan.

cording as he is older or younger than the speaker ; his grandson a son ; his great-grandson a grandson. A mother's sister is a mother ; her son is a brother, distinguished as before ; her grandson a son when a male is speaking, a nephew when a female is speaking. A grandfather's brother is a grandfather ; and a grandfather's sister is a grandmother. A brother's son is a son when a male is speaking, but a nephew when a female is speaking ; while a sister's son is a nephew when a male is speaking, but a son when a female is speaking. Lastly, brothers' grandchildren, and sisters' grandchildren, are called grandchildren.

This system, at first, strikes one as illogical and inconsistent. How can a person have more than one mother ? How can a brother's son be a son, or an uncle's great-grandson a grandson ? Again, while classing together several relationships which we justly separate, it distinguishes between elder and younger brothers and sisters ; and, in several cases, the relationship depends on the sex of the speaker. Since, however, a similar system prevails over a very wide area, it cannot be dismissed as a mere arbitrary or accidental arrangement. The system is, moreover, far from being merely theoretical, but is in every-day use. Every member of the tribe knows his exact relationship to every other, and this knowledge is kept up by the habit, general among the American tribes, and occurring also elsewhere, as, for instance, among the Esquimaux, the Tamils, Telugus, Chinese, Japanese, Feejeeans, &c., of addressing a person, not by his name, but by his relationship. Among the Telugus and Tamils an elder may address a younger by name, but a younger must always use the term for relationship in speaking to an elder. This custom is, probably, connected with the curious superstitions about names ; but, however it may have arisen, the result is that an Indian addresses his neighbour as "my father," "my son," or "my brother," as the case may be : if not related, he says, "my friend."

Thus the system is kept up by daily use ; nor is it a mere mode of expression. Although, in many respects, opposed to the existing customs and ideas, it is, in some, entirely consonant with them : thus, among many of the Redskin tribes, if a man marries the eldest girl in a family, he can claim in marriage all the others as they successively come to maturity ; this custom exists among the Shyennes, Omahas, Iowas, Kaws, Osages, Blackfeet, Crees, Minnitarees, Crows, and other tribes. I have already mentioned that among the Redskins, generally, the mother's brother exercises a more than paternal authority over his sister's children. I shall have occasion to refer again to this remarkable exaggeration of avuncular authority.

Mr. Morgan was much surprised to find that a system, more or less like that of the Wyandots, was very general among the Red-

skins of North America ; but he was still more astonished to find that the Tamil races of India have one almost identical. A comparison of Columns 8 and 9 in Table I, will show that this is the case, and the similarity is even more striking in Mr. Morgan's tables, where a larger number of relationships is given.

How then did this system arise ? How is it to be accounted for ? It is by no means consonant, in all respects, to the present social conditions of the races in question ; nor does it agree with tribal affinities. The American Indians generally follow the custom of exogamy, as it has been called by Mr. MacLennan, that is to say, no one is permitted to marry within the clan ; and, as descent goes in the female line, a man's brother's son, though called his son, belongs to a different clan ; while his sister's son does belong to the clan, though he is regarded as a nephew, and consequently as less closely connected. Hence, a man's nephew belongs to his clan, but his son belongs to a different clan.

Mr. Morgan, from several passages, appears to regard the system as arbitrary, artificial, and intentional.* He discusses, at some length, the conclusions to be drawn from its wide extension over the American continent, and its presence also in India. "The several hypotheses," he says, "of accidental concurrent invention, of borrowing from each other, and of spontaneous growth, are entirely inadequate."† With reference to the hypothesis of independent development in disconnected areas, he observes that it possesses "both plausibility and force." It has, therefore, he adds, (p. 501), "been made a subject of not less careful study and reflection than the system itself. Not until after a patient analysis and comparison of its several forms upon the extended scale in which they are given in the tables, and not until after a careful consideration of the functions of the system, as a domestic institution, and of the evidence of its mode of propagation from age to age, did these doubts finally give way, and the insufficiency of this hypothesis to account for the origin of the system many times over, or even a second time, became fully apparent."

And again, "if the two families (*i. e.*, the Redskin and the Tamil) commenced on separate continents in a state of promiscuous intercourse, having such a system of consanguinity as this state would beget, of the character of which no conception can be formed, it would be little less than a miracle if both should develop the same system of relationship."‡ He concludes, then, that it must be due to "transmission with the blood from a common original source.

* See pp. 157, 392, 394, 421, 456, etc.

† Loc. cit., p. 495.

‡ Loc. cit., p. 505.

If the four hypotheses named cover and exhaust the subject, and the first three are incapable of explaining the present existence of the system in the two families, then the fourth and last, if capable of accounting for its transmission, becomes transformed into an established conclusion.*

That there is any near alliance between the Redskin and Tamil races would be an ethnological conclusion of great importance. It does not, however, seem to me to be borne out by the evidence. The Feejeean system, with which the Tongan is almost identical, is very instructive in this respect, and scarcely seems to have received from Mr. Morgan the consideration which it merits. Now, Columns 9, 10, and 11, of Table I, show that the Feejeean and Tongan systems are identical with the Tamil. If, then, this similarity is, in the case of the Tamil, proof of close ethnological affinity between that race and the Redskin, it must equally be so in reference to the Feejeeans and the Tongans. It is, however, well known that these races belong to very distinct divisions of mankind, and any facts which prove similarity between these races, however interesting and important they may be as proofs of identity in human character, and history, can obviously have no bearing on special ethnological affinities. Moreover, it seems clear, as I shall attempt presently to show, that the Tongans have not used their present system ever since their ancestors first landed on the Pacific islands, but that it has subsequently developed itself from a far ruder system, which is still in existence in many of the surrounding islands.

I may also observe that the Two-Mountain Iroquois, whose close ethnological affinity with the Wyandots no one will question, actually agree, as shown by Columns 3 and 4 of Table I, more nearly with this ruder Pacific, or, as Morgan calls it, "Malayan" system, than they do with that of the neighbouring American tribes.

For these and other reasons I think it is impossible to adopt Mr. Morgan's views either on the causes which have led to the existence of the Tamil system, or as to the ethnological conclusions which follow from it.

How, then, have these systems arisen, and how can we account for such remarkable similarities between races so distinct, and so distant, as the Wyandots, Tamils, Feejeeans, and Tongans? In illustration of my views on this subject, I have constructed the following Table (Table I), to which I will shortly direct your attention. Before doing so, however, I must make a few preliminary remarks. In all cases I have given the translation of the native words, and, following Morgan, when one word is used

* Loc. cit., p. 505. See also p. 497.

for several relationships, have translated it by the simplest. Thus in Feejeean, the word "*Tamanngu*,"—literally "Tama my," the suffix "*nnqu*" meaning "my"—is applied not only to a father, but to a father's brother; hence, as the father is the more important, we say that they call a father's brother a father.

In most cases the origins of the terms for relationships are undeterminable; I have discussed some in my work on the "Origin of Civilisation;" other terms, as given by Mr. Morgan, have so far withstood the wear and tear of daily use as to be still traceable.

Thus, in Polish, the word for my great-uncle is, literally, "my cold grandfather:" the word for "wife" among the Crees is "part of myself;" that for husband among the Choctas is "he who leads me;" a daughter-in-law among the Delawares is called *Nah-hum*, literally, "my cook;" for which ungracious expression, however, they make amends by their word for husband or wife, *Wee-chaa-oke*, which is, literally, "my aid through life."

It might, *à priori*, be supposed that the nomenclature of relationships would be greatly affected by the question of male or female descent. This, however, does not appear to be the case. Under a system of female descent, combined with exogamy, as a man must marry out of his tribe, and as his children belong to their mother's tribe, it follows that a man's children do not belong to his tribe. On the other hand, a woman's children, whomsoever she may marry, belong to her tribe. Hence, while neither a man's nor his brother's children belong to the same tribe as himself, his sister's children must do so, and are, in consequence, often regarded as his heirs. In fact, for all practical purposes, among many of the Redskin and other tribes, a man's sister's sons are regarded as his children.

Elsewhere* I have shown that this remarkable custom prevails, not only among the Redskins, but also in various other parts of the world. Here, however, I will confine myself to the Redskins, amongst whom it may almost be laid down as a general proposition, that the mother's brother exercises a more than paternal authority over his sister's children. He has a recognised right to any property they may acquire, if he chooses to exercise it; he can give orders which a true father would not venture to issue; he arranges the marriages of his nieces, and is entitled to share in the price paid for them. The same custom prevails even among the semi-civilised races; for instance, among the Choctas the uncle, not the father, sends a boy to school.

* "Origin of Civilisation, and Primitive Condition of Man." Longmans, 1870. Pp. 106, 120.

Yet among these very tribes, a man's sister's son is called his nephew, while his brother's son is called his son.

Thus, although a man's mother's brother is called an uncle, he has, in reality, more power and responsibility than the true father. The true father is classed with the father's brother, and the mother's sister; but the mother's brother stands by himself, and, although he is called an uncle, he exercises the real parental power, and on him rests the parental responsibility. In fact, while the names of relationships follow the marriage customs, the ideas are guided by the tribal organisation. Hence we see that not only do the ideas of the several relationships, among the lower races of men, differ from ours; but the idea of relationship, as a whole, is, so to say, embryonic, and subsidiary to that of the tribe.

In fact, the idea of relationship, like that of marriage, was founded, not on duty, but on power. Only with the gradual elevation of the species has the latter been subordinated to the former.

I will now beg your attention to Table I (opposite p. 27), and begin with the Hawaiian, or Sandwich Isle system.

The Hawaiian language is rich in terms for relationships. A grandparent is *Kupuna*, a parent is *Makua*, a child *Ka'ikee*, a son-in-law, or daughter-in-law, is *Hunona*, a grand-child *Moopuna*, brothers in the plural are *Hoahanau*; a brother-in-law, or sister-in-law, is addressed as *Kaikoeke*: there are special words for brother and sister according to age and sex; thus, a boy speaking of an elder brother, and a girl speaking of an elder sister, use the term *Kai-kuaana*; a boy speaking of a younger brother, or a girl of a younger sister, uses the word *Kaikaina*; a boy speaking of a sister calls her *Kaikuwahine*, while a sister calls a brother, whether older or younger, *Kai-kunana*. They also recognise some relationships for which we have no special terms; thus, an adopted son is *Hunai*; the parents of a son-in-law, or daughter-in-law, are *Puliena*; a man addresses his brother-in-law, and a woman her sister-in-law, as *Punaloa*; lastly, the word *Kolai* has no corresponding term in English.

It will be observed that these relationships are conceived in a manner entirely unlike ours; we make no difference between an elder brother or a younger brother, nor does the term used depend on the sex of the speaker. The contrast between the two systems is, however, much more striking when we come to consider the deficiencies of the Hawaiian system, as indicated in the nomenclature. Thus, there is no word for cousin, none for uncle or aunt, nephew or niece, son or daughter; nay, while there is a word indicating parent, there is said to be none for father or even for mother.

The term "parent male", then, denotes not only a man's father,
but also his father's brother
and mother's brother,
while the term "parent female" in the same way denotes
not only a man's mother,
but also his mother's sister and
father's sister.

The term, my elder brother, stands also for my

Mother's brother's son,
Mother's sister's son,
Father's brother's son,
Father's sister's son.

while their children, again, are all my grandchildren. Here there is a succession of generations, but no family. We find here no true fathers and mothers, uncles or aunts, nephews or nieces, but only

Grandparents,
Parents,
Brothers and sisters,
Children, and
Grandchildren.

This nomenclature is actually in use, and, so far from having become obsolete, being in Feejee combined with inheritance through females, and the custom of immediate inheritance, gives a nephew the right to take his mother's brother's property: a right which is frequently exercised, and never questioned, although

apparently moderated by custom. It will very likely be said that though the word "son", for instance, is used to include many who are really not sons, it by no means follows that a man should regard himself as equally related to all his so-called "sons." And this is true, but not in the manner which might have been *a priori* expected. For, as many among the lower races of men have the system of inheritance through females, it follows that they consider their sister's children to be in reality more nearly related to them, not only than their brother's children, but even than their very own children. Hence we see that these terms, son, father, mother, etc., which to us imply relationship, have not strictly, in all cases, this significance, but rather imply the relative position in the tribe.

Additional evidence of this is afforded by the restrictions on marriage which follow the tribe, and not the terms. Thus the customs of a tribe may, and constantly do, forbid marriage with one set of constructive sisters or brothers, but not with another.

The system shewn in column 2 is not apparently confined to the Sandwich Islands, but occurs also in other islands of the Pacific. Thus, the Kingsmill system, as shown in column 3, is essentially similar, though they have made one step in advance, having devised words for father and mother. Still, however, the same term is applied to father's brother, and a mother's brother as to a father; and to a father's sister and a mother's sister as to a mother: consequently, first cousins are still called brothers and sisters, and their children and grandchildren are children and grandchildren.

The habits of the Southsea Islanders, the entire absence of privacy in their houses, their objection to sociable meals, and other points in their mode of life, have probably favoured the survival of this very rude system, which is by no means in accordance with their present social and family relations, but indicates a time when these were less developed than at present. We know as yet no other part of the world where the nomenclature of relationships is so savage.

Yet a near approach is made by the system of the Two-Mountain Iroquois, which is, perhaps, the lowest yet observed in America. In this tribe a brother's children are still regarded as sons, and a woman calls her sister's children her sons; a man, however, does not regard his sister's children as his children, but distinguishes them by a special term; they become his nephews. This distinction between relationships, which we regard as identical, has its basis in, and is in accordance with American marriage customs. Unfortunately, I have no means of ascertaining whether these rules occur among the tribe in question, but they are so general among the Indians of North America that in all probability it is the case. One of these customs is that if a

man marries a girl who has younger sisters, he thereby acquires a right to those younger sisters as they successively arrive at maturity.* This right is widely recognised, and frequently acted upon. The first wife makes no objection, for the work which fell heavily on her, is divided with another, and it is easy to see that, when polygamy prevails, it would be uncomplimentary to refuse a wife who legally belonged to you. Hence a woman regards her sister's sons as her sons; they may be, in fact, the sons of her husband: any other hypothesis is uncomplimentary to the sister. Throughout the North American races, therefore, we shall find that a woman calls her sister's children her children; in no case does she term them nephews or nieces, though in some few tribes she distinguishes them from her own children by calling them stepchildren.

Another very general rule in America, as elsewhere, is that no one may marry within his own clan or family. It has been shown in MacLennan's *Primitive Marriage*, and in the *Origin of Civilisation*, that this rule is general in North America, and widely prevalent elsewhere. The result is, that as a woman and her brother belong to one family, her husband must be chosen from another. Hence while a man's father's brother and sister belong to his clan, and his mother's sister, being one of his father's wives, is a member of the family—one of the fire-circle, if I may so say—the mother's brother is necessarily neither a member of the fire-circle, nor even of the clan. Hence while a father's sister and mother's sister are called mother, and a father's brother father, throughout the Redskin tribes the marriage rules exclude the mother's brother, who is accordingly distinguished by a special term, and in fact is recognised as uncle. Thus we can understand how it is that of the six classes of parents mentioned above, the mother's brother is the first to be distinguished from the rest by a special name. It will however be seen by the table that among the Two-Mountain Iroquois his son is called brother, his grandson son, and so on. This shows that he also was once called "father" as in Polynesia, for in no other manner can such a system of nomenclature be accounted for. All the other relationships, as given in the table, are, it will be seen, identical with those recognised in the Hawaiian and Kingsmill system. Thus only in two respects, and two, moreover, which can be satisfactorily explained by their marriage regulations, do the Two-Mountain Iroquois differ from the Pacific system. It is true that these two points of difference involve some others not shown in the table. Thus while a woman's father's sister's daughter's son is her son, a man's father's sister's daughter's son is his nephew,

* See "Arch. Amer.," vol. ii, p. 109.

because his father's sister's daughter is his sister, and his sister's son, as already explained, is his nephew. It should also be added that the Two-Mountain Iroquois show an advance as compared with the Hawaiian system in the terms relating to relationships by marriage.

The Micmac system, as shown in column 5, is in three points an advance on that of the Two-Mountain Iroquois. Not only does a man call his sister's son his nephew, but a woman applies the same term to her brother's son. Thus, men term their brother's sons "sons", and their sister's sons "nephews"; while women, on the contrary, call their brother's sons "nephews", and their sister's sons "sons"; obviously because there was a time when, though brothers and sisters could not marry, brothers might have their wives in common, while sisters, as we know, habitually married the same man. It is remarkable also that a father's brother and a mother's sister are also distinguished from the true father and mother. In this respect the Micmac system is superior to that prevailing in most other Red-skin races. For the same reason, not only is a mother's brother termed an uncle, but the father's sister is no longer called a mother, but is distinguished by a special term, and thus becomes an aunt. The social habits of the Redskins, which have already been briefly alluded to, sufficiently explain why the father's sister is thus distinguished, while the father's brother and mother's sister are still called respectively father and mother. Moreover, as we found among the Two-Mountain Iroquois that although the mother's brother is recognised as an uncle, his son is still called brother, thus pointing back to a time when the father's brother was still called father; so here we see that though the father's sister is called aunt, her son is still regarded as a brother; indicating the existence of a time when, among the Micmacs, as among the Two-Mountain Iroquois, a father's sister was termed a mother. It follows as a consequence that, as a father's brother's son, a mother's brother's son, a father's sister's son, and a mother's sister's son, are considered to be brothers, their children are termed sons by the males; but as a woman calls her brother's son a nephew, so she applies the same term to these constructive brother's sons.

If the system of relationship is subject to gradual growth, and approaches step by step towards perfection, we should naturally expect that, from differences of habits and customs, the various steps would not among all races follow one another in precisely the same order. Of this the Micmacs and Wyandots afford us an illustration. While the latter have on the whole made most progress, the former are in advance on one point, for though the Micmacs have distinguished a father's brother

from a father, he is among the Wyandots still termed a father; on the other hand, the Wyandots call a mother's brother's son a cousin, while among the Micmacs he is still termed a brother.

Here we may conveniently consider two Asiatic nations—the Burmese and the Japanese—which, though on the whole considerably more advanced in civilisation than any of the foregoing races, are yet singularly backward in their systems of family nomenclature. I will commence with the Burmese. A mother's brother is called either father (great or little) or uncle: his son is regarded as a brother; his grandson as a nephew; his great-grandson as a grandson. A father's sister is an aunt; but her son is a brother, her grandson is a son, and her great-grandson a grandson. A father's brother is still a father (great or little); his son is a brother; his grandson a nephew; and his great-grandson a grandson. A mother's sister is a mother (great or little); her son is a brother; her grandson a nephew; and her great-grandson a grandson. Grandfathers' brothers and sisters are grandfathers and grandmothers. Brothers' and sisters' sons and daughters are recognised as nephews and nieces, whether the speaker is a male or female; but their children again are still classed as grandchildren.

Among the Japanese a mother's brother is called a "second little father"; a father's sister a "little mother" or "aunt"; a father's brother a "little father" or "uncle"; and a mother's sister a "little mother" or "aunt." The other relationships shown in the table are the same as among the Burmese.

The Wyandots, descendants of the ancient Hurons, are illustrated in the eighth column. Their system is somewhat more advanced than that of the Micmacs. While, among the latter, a mother's brother's son, and a father's sister's son, are called brothers, among the Wyandots they are recognised as cousins. The children of these cousins, however, are still called sons by males, thus reminding us that there was a time when these cousins were still regarded as brothers. A second mark of progress is, that women regard their mother's brother's grandsons as nephews, and not as sons, though the great-grandsons of uncles and aunts are still, in all cases, termed grandsons.

I crave particular attention to this system, which may be regarded as the typical system of the Redskins, although, as we have seen, some tribes have a ruder nomenclature, and we shall presently allude to others which are rather more advanced. A mother's brother is termed uncle; his son is a cousin; his grandson is termed nephew, when a woman is speaking, son in the case of a male. In either case his grandson is termed grandson. A father's sister is an aunt, and her son a cousin; but her grandson and great-grandson are termed, respectively, son and grandson,

thus reminding us that there was a time when a father's sister was regarded as a mother. A father's brother is called father, his son brother, his grandson son, and his great-grandson grandson.

A mother's sister is a mother, her son is a brother, her grandson is called nephew by a female, son by a male; her great-grandson is, in either case, called grandson. A grandfather's brother and sister are called grandfather and grandmother respectively.

A brother's son is called son by a male, and nephew by a female, while a sister's son is called nephew by a male, and son by a female, the reasons for which have been already explained.

Lastly, brothers' son's sons and daughters, sisters' son's sons and daughters, are all called grandsons and granddaughters. Thus we see that in every case the third generation returns to the direct line.

The two following columns represent the Tamil and Feejeean system, with which, also, that of the Friendly Islands very closely agrees. I have already called attention to this, and given my reasons for being unable to adopt the explanation suggested by Mr. Morgan.

It will be observed that the only differences shown in the table between the system of these races and that of the Wyandots, are, firstly, that the mother's brother's grandson is regarded, among the Wyandots, as a nephew by males, and a son by females; while, in the Tamil and Feejeean system, the reverse is the case, and he is termed son by males, and nephew by females. Secondly, that the father's sister's grandson is regarded as a son among the Wyandots, while in the Tamil and Feejeean system, he is, when an uncle is speaking, recognised as a nephew. The latter difference merely indicates that the Tamil and Feejeean systems are slightly more advanced than the Wyandot. The other difference is more difficult to understand.

But though the Redskin, Tamil, and Feejeean systems, differing as they do from ours in many ways, which, at first, seem altogether arbitrary and unaccountable, agree so remarkably with one another, we find, also, in some cases, remarkable differences among the Redskin races themselves. These differences affect principally the lines of the mother's brother, and father's sister. This is natural. They are the first to be distinguished from true parents, and new means have, therefore, to be adopted to distinguish the relationships thus recognised. In several cases other old terms were tried, with very comical results. These modes of overcoming the difficulty were so unsatisfactory, that, by the time a father's sister's son was recognised as a cousin, the necessity for the creation of new terms seems to have been generally felt.

Table II shows, as regards fourteen tribes, the result of the attempt to distinguish these relationships. Taking, for instance, the line which gives the terms in use for a mother's brother's grandson, we find the following, viz., son, stepbrother, grandson, and grandchild, stepson, and uncle; in the case of a father's sister's grandson (male speaking), we have grandchild, son, stepson, brother, and father; when a female is speaking, grandchild, son, nephew, brother, and father. Thus, for this single relationship we find six terms in use, and a difference of three generations, viz., from grandfather to son. At first the use of such terms seems altogether arbitrary, but a further examination will show that this is by no means the case.

Column 2 gives the system of the Redknives, one of the most backward tribes on the American continent as regards their nomenclature of relationships. Here, though a mother's brother and a father's sister are, respectively, uncle and aunt, their children are regarded as brothers, their grandchildren as sons, and their great-grandchildren as grandsons. The Munsee system shows a slight advance. Here, though the women call their sister's sons their sons, the males, on the contrary, term them nephews, and, consequently, apply the same term to their mother's brother's daughter's son, and their father's sister's daughter's son, because, as in the preceding case, mothers' brother's daughters, and fathers' sister's daughters, are termed sisters. The Micmacs (column 3) show another step in advance. Here, not only does a man call his sister's son nephew, but, in addition, a woman applies the same term to her brother's sons; consequently, not only a mother's brother's daughter's sons, if a male is speaking, but a mother's brother's son's son, if a female is speaking, and the corresponding relations, on the side of the father's sister, are termed nephews.

Among the Delawares a mother's brother's son, and father's sister's son, are distinguished from true brothers by a term corresponding to "stepbrother." They appear to have also felt the necessity of distinguishing a stepbrother's son from a true son, but having no special term, they retain the same word, thus calling a stepbrother's son a stepbrother. This principle, as we shall see, is followed by several other tribes, and has produced the most striking inconsistencies shown in the table. We find it again among the Crows, where a father's sister is called mother, her daughter again mother; but as her son cannot of course be a mother, he is called "father." The same system is followed by the Pawnees, as shown in columns 7 and 8; and the Grand Pawnees carry it a generation lower, and call their father's sister's grandson on the male side "father": a father's sister's daughter's son is however called a brother. Among the

Cherokees we find this principle most thoroughly carried out, and a father's sister's grandson is also called a father. This case is the more interesting because the circumstance which produced the system is no longer in existence; for, as will be seen, a father's sister is called an aunt. It is not at first obvious that a father's sister being called a mother would account for her son being called a father; but, with the Crow and Pawnee systems before us, we see that the Cherokees could not call their father's sister's sons "fathers", unless there had been a time when a father's sister was regarded as a mother.

The Hare Indians supply us with a case in which mother's brothers and father's sisters being distinguished from fathers and mothers, their children are no longer termed brothers, but are distinguished as cousins; while their grandchildren and great-grandchildren, on the contrary, are still termed sons and grandsons.

So far as the relationships shown in the table are concerned, the system of the Omahas, and of the Sawks and Foxes, is identical. A mother's brother is an uncle, and, for the reason already pointed out, in the case of the Delawares, his sons and son's sons, and even son's grandsons, are also termed grandsons. His daughter's sons, on the contrary, retain the old name of brother. A father's sister is an aunt, her children are nephews, and the descendants of these nephews are grandchildren.

Among the Oneidas a father's brother is an uncle, and his son is a cousin; his son's sons, however, are still sons. His daughter's son is a son when a female is speaking; but, for the reason already explained in the case of the Munsees, males term them nephews. The relationships connected with a father's sister are dealt with in a similar manner, except that a father's sister is still called mother.

The Ottawa system resembles the Micmac, and is formed on the same plan, being, however, somewhat more advanced, inasmuch as the children of uncles and aunts are recognised as cousins, and a man calls his cousin's son, not his son, but his stepson. The Ojibwa system is the same, except that a woman also calls her mother's brother's daughter's son, and father's sister's daughter's son, her stepson, instead of her son. In some of the relationships by marriage, the same causes have led to even more striking differences. Thus, a woman generally calls her father's sister's daughter's husband her brother-in-law; but among the Missouri and Mississippi nations, her son-in-law; among the Minnitarees, the Crows, and some of the Choctaw clans, her father; among the Cherokees, her stepparent; the Republican Pawnees, and some of the Choctas, her grandfather; and among the Tukuthes, her grandson!

Having thus pointed out the curious results to which some of the lower races have been led in their attempts to distinguish relationships, and endeavoured to explain those shown in Table II, I will now return to the main argument.

The Kaffir (Amazulu) system is given in Column 12, Table I. Here, for the first time, we find the father's brother regarded as an uncle, and the mother's sister as an aunt. In other respects, however, the system is not more advanced than the Tamil, Feejeean, or Wyandot. The mother's brother is called uncle,* his son cousin, his grandson son, and his great-grandson, grandchild. A father's sister, quaintly enough, is called father, the Kaffir word for which, *ubaba*, closely resembles ours. His son, however, is called brother; his grandson, accordingly, son; his great-grandson, grandchild. A father's brother, as already mentioned, is uncle; but, as before, his son is called brother; his grandson, son; and his great-grandson, grandson. So, also, a mother's sister is an aunt, but her son is a brother; her grandson a son; and her great-grandson, a grandson. As in all the preceding cases, grandfather's brothers and sisters are considered as, respectively, grandfathers and grandmothers. Brothers' sons and sisters' sons are called sons, and, lastly, their sons again are grandsons.

Excepting in the case of nephews this system, therefore, closely resembles the Tamil, Feejeean, and Wyandot; the other principal differences being, oddly enough, a more correct appreciation of uncles and aunts.

Column 13, Table I, exhibits the nomenclature in use among the Mohegans, whose name signifies "seaside people," from their geographical position on the Hudson and the Connecticut. They belong to the great Algonkin stock. Here, for the first time, a distinction is introduced between a father and a father's brother. The latter, however, is not recognised as an uncle; that is to say, a father's brother and a mother's brother are not regarded as equivalent relationships, but the former is termed stepfather. This distinguishing prefix is the characteristic feature; and, as will be seen, we find the terms, stepmother, stepbrother, and stepchild, (to the exclusion of cousin), as natural consequences of the stepfatherhood. Still, the mother's sister remains a mother, and her son a brother, and the derivation of this system from one similar to those already considered, is, moreover, indicated by the fact that the members of the third generation are still regarded as grandchildren.

The Crees and Ojibwas, or Chippewas (of Lake Michigan), who also belong to the great Algonkin stock, resemble the Mohegan in

* It is, however, significant that he calls his sister's sons "sons", and not nephews.

the use, though with some minor differences, of the prefix "step-", a device which occurs also in a more complicated form among the Chinese. In some points, however, they are rather more advanced, and, in fact, these tribes possess the highest system of relationship yet recorded among the Redskins of North America. A mother's brother is an uncle, and his son is a cousin; as regards his grandson, the tendency to the use of different terms, according as the speaker is a male or female, shows itself in the use by the former of the term stepson, where the latter say nephew, as in some of the ruder tribes. In both cases, mothers' brothers' great grandchildren are called grandchildren. A father's sister is an aunt, and the nomenclature with reference to her descendants is the same as in the case of the mother's brother. A father's brother is a stepbrother; his son is still called a brother by males among the Crees, but is called stepson by the Ojibwas; the other relationships in this line being the same as in the case of the mother's brother and father's sister.

No Redskin regards his mother's sister as an aunt, but the Crees and Ojibwas distinguish her from a true mother by the term stepmother, and her descendants are addressed by the same terms as those of the father's brother. The grandfather's brothers and sisters are called grandfathers and grandmothers. As before, brothers' sons, when a female is speaking, and sisters' sons, when a male is speaking, are called nephews; while brothers' sons, when a male is speaking, and sisters' sons, when a female is speaking, are no longer regarded as true sons, but are distinguished as stepsons. The grandchildren of these nephews and stepsons are, however, all termed grandchildren.

If, now, we compare this system with that of the Two-Mountain Iroquois, we find that out of twenty-eight relationships given in the table, only ten have remained the same. Of these, two are indicative of progress made by the Two-Mountain Iroquois, namely, the term for mother's brother and sister's son; the other eight are marks of imperfection still remaining in the Ojibwa nomenclature: points, moreover, not by any means characteristic of American races, but common, also, as we have seen, to the Hawaiian, Kingsmill, Burmese, Japanese, Tongan, Feejeean, Kaffir, and Tamil systems; as we shall also find, to the Hindi, Karen, and Esquimaux; in fact, to almost all, if not all barbarous peoples, and to some of the most advanced races.

Column 14 (Table 1) shows the system of nomenclature as it exists in Hindi, and it may be added that the Bengali, Marathi, and Gujerathi are essentially the same, although the words differ. All these languages are said to be Sanskrit as regards their words; aboriginal, on the contrary, in their grammar. Hindi contains 90% of Sanskrit words, Guzerathi as much as 95%.

With three or four exceptions, it appears that the terms for relationships may be all of Sanskrit origin.

Here, for the first time, we find that a brother's son and a sister's son is termed a nephew, whether the speaker is a male or a female. Yet nephews' children are still termed grandchildren. Again, for the first time, the mother's brother, father's brother, mother's sister, and father's sister are regarded as equivalent, and the terms for their descendants are similar. The two former—*i.e.*, mother's brother and father's brother are termed "uncles;" the two latter—*i.e.*, mother's sister and father's sister are called aunts. Yet, as regards the next generations, the system is less advanced than the Ojibwa, for uncles' sons and aunts' sons are termed brothers, their grandsons nephews, and their great grandsons grandsons. It should, however, be observed that, in the first three languages, *viz.*, the Hindi, Bengali, and Marathi, besides the simple term "brother," the terms "brother through paternal uncle," "brother through paternal aunt," "brother through maternal uncle," and "brother through maternal aunt," are also in use, and are less cumbersome than our English literal translation would indicate. The system, therefore, is transitional on this point. Lastly, a grandfather's brother is called "grandfather;" a grandfather's sister, "grandmother."

The Karens are a rude, but peaceable and teachable race, inhabiting parts of Tenasserim, Burmah, Siam, and extending into the southern parts of China. They have been encroached upon and subjected by more powerful races, and are now divided into different tribes, speaking distinct dialects, of which three are given in Mr. Morgan's tables. Though rude and savage in their mode of life, they are described as extremely moral in their social relations—praise which seems to be fully borne out by their system of relationships, as shown in column 17, Table I.

Column 18 shows the system of another rude people, belonging to a distinct family of the human race, and inhabiting a distant and very different part of the world. Like the Karens, the Esquimaux are a rude people, but like them they are a quiet, peaceable, and moral race. No doubt on some points their ideas differ from ours; their condition does not admit of much refinement,—of any great advance in science or art. They cannot be said to have any religion worthy of the name, yet there is perhaps no more moral people on the face of the earth, none among whom there is less crime; and it is, perhaps, not going too far to say that there is, as far as I can judge, no race of men which has to so full an extent availed itself of its opportunities.

It is most remarkable to find these two races of men, so distinct, so distant, so dissimilar in their modes of life, without a word in common, yet using systems of relationship which, in

their essential features, are identical, although by no means in harmony with the existing social condition: in both, uncles and aunts are correctly recognised, and their children are regarded as cousins; their grandchildren, however, are termed nephews, and the children of these so-called nephews are classed, as in all the previous cases, as grandchildren. Thus, out of the twenty-eight relationships indicated in the table, the Karens and Esquimaux agree with us in twelve, and differ in sixteen. As regards every one, however, of these sixteen they agree with one another, while in eight they follow the same system as every other race which we have been considering.

These facts cannot be the result of chance; there is one way, and as it seems to me, one way only, of accounting for them, and that is by regarding them as the outcome of a progressive development such as that which I have endeavoured to sketch. An examination of the several cases will confirm this view.

The Karen-Esquimaux system is inconsistent with itself in three respects, and precisely where it differs from ours. The children of cousins are termed nephews, which they are not; the children of nephews are regarded as grandchildren, and a grandfather's brothers and sisters are termed, respectively, grandfathers and grandmothers.

The first fact, namely, that a mother's brother's grandsons, and a mother's sister's grandsons, a father's sister's grandsons, and a father's brother's grandsons, are all termed "nephews," clearly points to the existence of a time when a mother's brother and a father's brother were regarded as fathers, a mother's sister and a father's sister as mothers, and their children, consequently, as brothers. The second, namely, that the great-grandchildren of uncles and aunts are regarded as grandchildren, similarly points to a time when nephews and nieces were termed, and regarded as sons and daughters, and their children, consequently, as grandchildren. Lastly, why should grandfather's brothers and grandfather's sisters be called grandfathers and grandmothers, unless there was a time when fathers' brothers and sisters were respectively called "fathers" and "mothers": unless the Karens and Esquimaux once had a system of relationship similar to that which still prevails among so many barbarous tribes, and which, to all appearance, has been gradually modified. Hence, though the Karens and Esquimaux have now a far more correct system of nomenclature than that of many other races, we find even in it clear traces of a time when these peoples had not advanced in this respect beyond the lowest stage.

As already mentioned, the European nations follow, almost without exception, a strictly descriptive system, founded on the marriage of single pairs. The principle is, however, departed

from in a few very rare cases, and in them we find an approach to the Karen-Esquimaux system. Thus in Spanish, a brother's great-grandson is called "grandson." Again, in Bulgarian, a brother's grandson and sister's grandson are called "*Mal vnook mi*," literally, "little grandson my." A father's father's sister is termed a grandmother, and a father's father's brother a grandfather, as is also the case in Russian. The French and Sanskrit, alone, so far as I know, among the Aryan languages, have special words for elder and younger brother. Among Aryan races the Roman and the Germans alone developed a term for cousin,* and we, ourselves, have, even now, no word for a cousin's son. The history of the term "nephew" is also instructive. The word "*nepos*," says Morgan,† "among the Romans, as late as the fourth century, was applied to a nephew as well as a grandson, although both *avus* and *avunculus* had come into use. Eutropius, in speaking of Octavianus, calls him the nephew of Cæsar, "*Cæsaris nepos*," (Lib. vii, c. i). Suetonius speaks of him as *sororis nepos* (Cæsar, c. lxxxiii), and afterwards (Octavianus, c. vii) describes Cæsar as his greater uncle, *major avunculus*, in which he contradicts himself. When *nepos* was finally restricted to grandson, and thus became a strict correlative of *avus*, the Latin language was without a term for nephew, whence the descriptive phrase, *Fratri vel sororis filius*. In English, *nephew* was applied to grandson, as well as nephew, as late as 1611, the period of King James' translation of the Bible. Niece is so used by Shakspeare in his will, in which he describes his granddaughter, Susannah Hall, as 'my niece,'"

So that even among the most advanced races we find some lingering confusion about nephews, nieces, and grandchildren.

Thus, then, we have traced these systems of relationships from the simple and rude nomenclature of the Sandwich Islanders up to the far purer and more correct terminology of the Karens and Esquimaux. I have endeavoured to show that the systems indicated are explicable only on the theory of a gradual improvement and elevation, and are incompatible with degradation: that as the valves indicate the course of the blood in our veins, so do the terms applied to relationships point out the course of past history. In the first place, the moral condition of the lower races, wherever we can ascertain it, is actually higher than that indicated by the phraseology in use: and, secondly, the systems themselves are, in almost all cases, inexplicable, except on the hypothesis that they were themselves, preceded by still ruder ones.

* So that of many nations it may be said, literally as well as figuratively, that "les nations n'ont pas de cousins."

† Loc. cit., p. 35.

Take, for instance, the case of the Two-Mountain Iroquois: they call a mother's brother an uncle, but his son they regard as a brother. This is no accident, for the idea is carried out in the other relationships, and occurs also in other races. On the theory of progress it is easily accounted for: if a father's brother was previously called a father, his son would, of course, be a brother; and when the father's brother came to be distinguished as an uncle, some time would, no doubt, often elapse before the other changes, consequent on this step, would be effected. But how could such a system be accounted for on the opposite theory? How could a father's brother's son come to be regarded as a brother, if a father's brother had always been termed an uncle? The sequence of terms for the relationships connected with a father's sister, on the two hypotheses of progress on the one hand, and degradation on the other, may be illustrated as in the Table III (p. 27).

In the first, or lowest stage, the sequence is mother, brother, son, grandson, as in the Sandwich and Two-Mountain Iroquois system. In the next stage, the mother's sister being recognised, as an aunt, and the other relationships remaining the same, we have the sequence aunt, brother, son, grandson, as among the Micmacs. When a brother's son becomes a nephew, we have aunt, brother, nephew, grandson, as in the Burmese, Japanese, and Hindi systems. In the next stage, an aunt's son being distinguished as a cousin, we have aunt, cousin, nephew, grandson, as among the Tamils and Feejees. The two last stages would be aunt, cousin, aunt's grandson, grandson; and, lastly, aunt, cousin, aunt's grandson, aunt's great-grandson. Thus, out of these six stages, five actually exist.

On the other hand, on the theory of retrogression, we should commence with the highest system; namely, aunt, cousin, aunt's grandson, and aunt's great-grandson. The second, mother, cousin, aunt's grandson, aunt's great-grandson. The third, mother, brother, aunt's grandson, aunt's great-grandson. The fourth, mother, brother, nephew, aunt's great-grandson. The fifth, mother, brother, son, aunt's great-grandson. And the last, mother, brother, son, grandson. Thus, it will be observed that, except, of course, the first and last, they have not a stage in common; and, though there may be some doubt whether the sequence suggested on the second hypothesis is the one which would be followed, it cannot, be maintained that we could ever have the systems which would occur in the case of progress, as shown in Table III, and the first four of which are actually in existence.

Whenever, then, the son or daughter of an uncle, or aunt, is termed a brother, as in the case of seven of the races referred to

in the Table, we may be sure that there was once a time when that uncle, or aunt, was termed a father or mother : whenever a cousin's son is termed a son, as again in seven races, we must infer, not only that those cousins were once regarded as brothers, but that brother's sons were once termed sons. Again, when great-uncles and aunts are termed grandfathers and grandmothers—when great-nephews and nieces are termed grandchildren, as in the case of all the races we have been considering, we have, I submit, good reason to infer that those races must once have had a system of nomenclature as rude as that of the Hawaiians or Kingsmill Islanders.

But it may be asked : admitting that the seventeen races, illustrated in Table I, are really advancing, are there not cases of the contrary ? The answer is clear, out of the 139 races whose systems of relationship are more or less completely given by Mr. Morgan, there is not one in which evidence of degradation is thus indicated. To show this clearly and concisely, I have prepared the following table (p. 24). It will be seen that, taking merely the relation of uncles and aunts with reference to their children, there are 207 cases indicating progress. On the other hand there are four cases, the Cayuda, Onondaga, Oneida, and Mohawks, among whom, while a father's sister is called a mother, her son is called a cousin. These cases, however, are neutralised by the fact that the sons of these cousins are called sons. We have, therefore, a very large body of evidence indicating progress, and collected among very different races of men, while there appear to be none which favour the opposite hypothesis.

In my work on the Origin of Civilisation, I have endeavoured to show that relationship is, at first, a matter, not of blood, but of tribal organisation ; that it is, in the second place, traced through the mother ; in the third, through the father : and that only in the fourth stage is the idea of family constituted as amongst ourselves. To obtain clear and correct ideas on this subject, it is necessary to know the laws and customs of various races. The nomenclature, alone, would, in many cases, lead us into error, and, in fact, has often done so. When checked by a knowledge of the tribal rules and customs, it is, however, most interesting and instructive. From this point of view especially, Mr. Morgan's work is of great value. It has been seen, however, I differ greatly from him as to the conclusions to be drawn from the facts which he has so diligently collected.

Of course, I do not deny that these facts may, in some cases, indicate ethnological affinities ; but they have not, I think, so great an importance in solving questions of ethnological relationships as he supposes ; I do not, however, in any way, undervalue their import-

ance; they afford a striking evidence in favour of the doctrine of development, and are thus a very interesting and important contribution to the great problem of human history.

From the materials which he has so laboriously collected, and for which Ethnologists owe him an immense debt of gratitude, I have endeavoured to show:

Firstly, that the terms for, what we call, relationships, are, among the lower races of men, mere expressions for the results of marriage customs, and do not comprise the idea of relationship as we understand it: that, in fact, the connection of individuals *inter se*; their duties to one another; their rights; the descent of their property: are all regulated more by the relation to the tribe than by that to the family; that when the two conflict, the latter must give way.

Secondly, that the nomenclature of relationships is, in all the cases yet collected, explainable in a clear and simple manner on the hypothesis of progress.

Thirdly, that while two races in the same state of social condition, but, of which, the one has risen from the lowest known system, the other sunk from the highest, would, necessarily, have a totally different system of nomenclature for relationships; and that we have not a single instance of such a system as would result from the latter hypothesis.

Fourthly, that some of those races which approximate most nearly to our European system, differ from it upon points only explainable on the hypothesis that they were once in a much lower social condition than they are at present.

DISCUSSION.

Mr. W. C. DENDY expressed his admiration of the lucid mode in which Sir John Lubbock had illustrated his elaborate tables of affinity. In alluding to the similarity of appellations it was curious to note the almost identity of terms of relationship between races whose homes were half the globe asunder—Iroquois, Tamil, Feejeean, and Hawaiian—especially as the cranial forms (and may be the quality of the hemispherical ganglion) were in contrast. The frailty of their canoes or rafts would seem to contraindicate miscegenation or emigration, in explanation, or even the carnal intercourse of the sandal-wood traders. Granting the existence of such intercourse, however, it does not point to any grand ethnic principle, but rather the slavish adoption of the ideas of others by tribes of low intellect.

The author of this elaborate and valuable paper glances at his favourite theme, the emancipation from the primitive degradation of Man. It will require, however, more strict comparison between the present and remote conditions of races ere we may form inductions with regard to the development and progress of human intellect, especially as tradition and travel seem occasionally to demonstrate regress

TABLE III.—SYSTEMS OF RELATIONSHIP UPON THEORY OF PROGRESS.

	FIRST STAGE.*	SECOND STAGE.†	THIRD STAGE.‡	FOURTH STAGE.§	FIFTH STAGE.	SIXTH STAGE.||
Father's sister	Mother.	Aunt.	Aunt.	Aunt.	Aunt.	Aunt.
" " son	Brother.	Brother.	Brother.	Cousin.	Cousin.	Cousin.
" " " son.....	Son.	Son.	Nephew.	Nephew.	Aunt's grandson.	Aunt's grandson.
" " " " son..	Grandson.	Grandson.	Grandson.	Grandson.	Grandson.	Aunt's great-grandson.

* This is the system of the Sandwich Islands, Kingsmill Islands, Two-Mountain Iroquois, etc. † System of the Micmacs.
 ‡ This is the system of the Burmese, Japanese, Hindi. § This is the Tamil and Feejeean systems. || Our system.

SYSTEMS OF RELATIONSHIP UPON THEORY OF DEGRADATION.

	FIRST STAGE.	SECOND STAGE.	THIRD STAGE.	FOURTH STAGE.	FIFTH STAGE.	SIXTH STAGE.
Father's sister	Aunt.	Mother.	Mother.	Mother.	Mother.	Mother.
" " son	Cousin.	Cousin.	Brother.	Brother.	Brother.	Brother.
" " " son.....	Aunt's grandson.	Aunt's grandson.	Aunt's grandson.	Nephew.	Son.	Son.
" " " " son..	Aunt's great-grandson.	Aunt's great-grandson.	Aunt's great-grandson.	Aunt's great-grandson.	Aunt's grandson.	Grandson.

of even enlightened people, as in Assyria, Arabia, and Egypt—nomadic tribes now wandering among the ruins of these once gorgeous temples.

Regarding the islanders of Oceania, it is clear that they are now about in the same state as when Cook and other navigators, in the past century, lighted on their shores.

Mr. HYDE CLARKE observed that it was not impossible to establish a linguistic connection among the several groups, which had been regarded as incapable of the intercommunication of such terms as those recorded by Sir John Lubbock. Thus, in the neighbourhood of the Karen were the linguistic analogues of Sour or Savara. This and the Thug showed relationship with the Esquimaux, and so with the adjoining American tribes, and thus two extremes were brought together; again, there were ancient grammatical relationships between the languages of High Asia (as the Caucaso-Tibetan group) and those of the Caffre tribes in South Africa. He would proceed further to illustrate a point in Sir John's first class, and on which there was a note in his *Origin of Civilisation*, which contained the germ of a series of interesting facts, illustrative of the origin of words. It is the accepted belief that "mother" (*Maker, Meker, Ma, Ama*, etc.) and "father" are the most ancient words, and various reasons have been given for *Ma* being a natural effort of all children. This, however, is nothing more than an error. *Ba* and *Ma* cannot be accepted as the first words, nor as distinctive of Father and Mother. Just as in Hawaiian, the earliest idea was of Parent, and that of Male and Female Parent came after. This is shown by the fact that there are several roots, *Ma, Ta (Da), Sa, Ba (Pa), Wa, Na, Ya*, signifying either Father or Mother, according to the language in which employed. *Ma* is used as Mother in a most extensive class of languages, but it is Father in Georgian and Manchoo, Mon (Siam), Tuluva, Australian, Irula, and Tlatskana (N. W. America). *Pa* is Mother in Australian and Tuluva (India). *Da* is Mother in some African languages; *Wa* is Father in Savara, Yarukala, W. Africa, etc.; but Mother in Irula, etc. *Ya* is Father in Chinese, in Japanese Toda, etc.; but Mother in Talain, Circassian, Tibetan, Kolarian, Dravidian, etc. Some languages retain still several roots. Thus Gondi (India) uses for Mother *Ba, Ma, Ya, Wa*. The process of selecting for father, mother, grandmother (old woman, nurse) etc., from the roots for Parent was comparatively late. The original root appeared to be *A* worked with the affixes of ancient comparative grammar, *M, T (D), S, B (P, W), N*, and perhaps *L*. He considered one practical value of Sir John's paper was that it gave us a new means of testing the spread of common ideas and terms among various races.

Mr. C. S. WAKE said that much light was thrown on the source of the curious classification of relationships treated of in Sir John Lubbock's very valuable paper by tracing the original meaning of the words used. Taking those which, according to Mr. Morgan, are employed by the Sandwich Islanders, it is evident that they embody certain ideas which are applicable to general rather than to particular classes. Thus,

kupuna (a great-grandfather, &c.) means "an ancestor", and implies the idea of a *source* or *spring*, and also of *growth*; *makua kana* (father, uncle, &c.) signifies "full-grown man"; *makua wahina* (mother, aunt, &c.) is "full-grown woman"; *kaikee kana* (son, nephew, &c.) is literally the "child (or 'small') man"; *hunona* (a niece- or nephew-in-law) appears to be connected with the Vitian *none*, a "child", *vuno*, a "child-in-law". The words *kana* (man), and *wahina* (woman), would seem to be themselves explainable in a similar manner. The former is probably connected with *kano*, which means "the inmost substance of a thing, the flesh"; and the latter may be traced to a root signifying "to feed, nourish", found also in *ohana*, a "family".

Mr. BLYTH, Mr. LUKE BURKE, and Mr. A. L. LEWIS, also joined in the discussion.

Sir JOHN LUBBOCK observed that he had not overlooked the cases of decadence mentioned by Mr. Dendy; nor had he ever denied that particular races might sink in the scale of civilisation; he maintained, however, that such races also diminish in numbers; that progressive races tend to encroach on those which are falling back, so that, as a whole, the history of mankind is one of progress. He also briefly referred to the other points raised in the discussion.

ORDINARY MEETING, MARCH 6TH, 1871.

DR. CHARNOCK, F.S.A., *Vice-President, in the Chair.*

THE Minutes of the last Meeting were read, and confirmed.

The following new members were announced: CUDDALORE PUTTAH LUTCHMEEPATHY NAIDOO GAROO, 14, Frederick Street, Gray's Inn Road, W.C.; HENRY COOK, Esq., Wantage, Berks; DANBY P. FRY, Esq., Poor Law Board, Whitehall Place, S.W.; CHARLES EDWARD MOORE, Esq., Middle Temple, E.C.; JOSEPH SHARPE, Esq., LL.D., 36, Queensborough Terrace, Hyde Park, W.; JESSE TAGG, Esq., 5, Outram Villas, Addiscombe; and W. J. W. VAUX, Esq., M.A., F.R.S., Royal Society of Literature, (*Honorary Member*).

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From Dr. THURNAM, F.R.S.—Ancient Rock-Tombs at Ghain Tiffiha and Tal Horr, and the Human Remains found therein.

From Dr. J. BARNARD DAVIS, F.R.S.—*Del Cervello nei due Tipi brachicefalo e dolicocefalo italiano.* By Prof. C. Luigi Calori.

From the AUTHOR.—*The Descent of Man, and Selection in Relation to Sex.* By Charles Darwin, M.A., F.R.S., etc. 2 vols.

- From the AUTHOR.—The Rajas of the Punjab. By Lepel H. Griffin.
 From the SOCIETY.—Proceedings of the Society of Antiquaries of London ; vol. iv, No. 9.
 From the SOCIETY.—Proceedings of the Society of Antiquaries of Scotland ; vol. vii, part 2.
 From the SOCIETY.—Journal of the Asiatic Society of Great Britain and Ireland ; vol. v, part 1.
 From the ASSOCIATION.—Transactions of the National Association for the Promotion of Social Science. 1870.
 From G. TATE, Esq.—Proceedings of the Berwickshire Naturalists' Club. 1870.
 From the EDITORS.—Archivio per l'Antropologia e la Etnologia. By Dr. Paolo Mantegazza and Dr. Felice Finzi. Vol. i, fascicolo 1.
 From the EDITOR.—The Journal of Psychological Medicine, vol. iv, No. 5, and vol. v, No. 1.
 From the EDITOR.—The Food Journal for February, 1871.
 From the EDITOR.—Nature, to date.

Col. A. LANE FOX exhibited a worked flint of horse-shoe form, armed with processes on the outer margin, said to have been brought from Mexico ; and pointed out its resemblance to a specimen from Honduras, now in the Blackmore Museum.

Mr. BLYTH exhibited a flint celt found in gravel at Tooting ; specimens of grass cloth from the Lagos country, W. Africa ; and two similar necklaces of lignite beads, one from the Andaman Islands, and the other from Lagos.

Mr. JOSIAH HARRIS read an extract from a letter from his son, Mr. J. D. Harris, of the Macabi Islands, Peru, referring to the discovery of a stratum of rags about five feet in thickness, occurring at a depth of eight feet from the surface, and extending over the whole of the North Island.

The following Paper was then read by the author :

II.—*On the RACIAL ASPECTS of the FRANCO-PRUSSIAN WAR.*
 By J. W. JACKSON, Esq., M.A.I.

THE day is obviously approaching when considerations based on the facts affirmed, if not revealed, by Anthropology, will seriously influence the purposes of statesmen, and permanently modify the councils of princes. Dynastic interests are no longer the supreme element in human affairs. The wishes of peoples as well as the desires of their rulers have now to be consulted. The rude ambition which would despise racial landmarks is now admitted to be of that unsafe kind which does o'erleap itself. Thus, perhaps, it is not too much to say that a merely imperial agglomeration of diversely descended peoples, held together only by the iron vinculum of the sword, such as Austria once

presented, could not now be established; or, if founded as a result of overwhelming military force, could not be rendered permanent. A power thus constituted would soon crumble to pieces of its own weight, and from want of all true cohesion among its constituent parts. The tendency to this is seen even where the nucleus of an empire is composed of one decidedly and numerically predominant people, as in the case of Russia, while in the instance of Turkey, where the governing race are merely immigrant conquerors, the ethnic diversity of their subjects is proving hopelessly fatal to the very existence of the State.

Monarchs and their ministers, however, are not the only persons who find the race-question too strong for them. Theoretical legislators, like Bentham, and political economists, like John Stuart Mill, together with all those zealous, but rather injudicious, philanthropists who deem it necessary to the success of their benevolent undertakings to deny the radical diversity, while they imply if they do not affirm the mental, if not the physical equality of races, are beginning to admit that ethnic specialities are something more than a surface phenomenon; structure being connected with, and so in a sense indicative of, character. In truth, events, and those, too, of the gravest character, are every day forcing anthropological facts upon the notice of the public, and compelling even the most indifferent, or the most unwilling, to reflect on the specialities of race. And now, as if to confirm us in our views as to the paramount importance of ethnic data, we have the almost pre-historic conflict between Celt and Teuton renewed, not only in all its former force and virulence, but with a certain increase of intensity, due perhaps in part to the scientific appliances and locomotive instrumentalities of modern civilisation, which has thus done more to arm the combatants with weapons and provide them with opportunities for mutual destruction than to diminish their ferocity by the culture of those arts, which, according to certain literary authorities, both ancient and modern, are so favourable to the softening of manners. Having, then, in some former papers in the *Anthropological Review* already contemplated the relations and characteristics of the Roman and the Teuton (Jan. 1866), as well as the Roman and the Celt (April, 1867), it may not perhaps be amiss to complete this division of our subject-matter by contemplating Teuton and Celt, not so much in their relation to the great imperial people of antiquity as to each other, and to the remaining peoples and nationalities of Europe and the world.

To the true student of anthropology few things are more patent, and nothing is more mortifying, than the limitation of

his knowledge. In every direction anything approaching to profound investigation leads him to impassable barriers. Look where he may he is everywhere confronted by insoluble problems, by facts of which he has not ascertained the cause, and results of which he does not understand the processes. And among these mortifying limitations, none are more remarkable than his inability to discover the origin and assign the primal habitat of that Aryan race, of one of whose many families he is presumably a member. Nay, the later history of these families, the age when, and the place where, they commenced as distinct varieties, is still matter of controversy, or rather of the vaguest speculation, in which opinion dominates fact, and preconceived ideas assume the place of ascertained data. It is no wonder, therefore, that we cannot even pretend to trace the origin of the Celtic and Teutonic families of Europe. It will be well, indeed, if we should, even by remote approximation, succeed in defining them.

In "The Aryan and the Semite" it was shown that one speciality of the Hebrew division of the Semitic family, consisted in their geographical position, in virtue of which they could not be easily or even directly invaded and colonised by the ruder Negroid tribes on the south, or the coarser Turanians from the north; one result of this more favourable position being a higher type and greater purity of blood on their part than on that of some of their Amharic and Aramaic kinsmen. Now, a similar remark is applicable to the Celts of Gaul, and, I may add, of Britain, as compared with other Aryan peoples of Europe. They are shut in from Tartarian invasion on the north and east by the Slavons and Teutons, and from Moorish invasion on the south by the Iberians, the result of which is that they present a higher nervous type, and are consequently endowed with more sensibility, susceptibility, and intensity of thought and feeling than their neighbours. This more powerful development of the nervous system as contradistinguished from the osseous and the muscular, constitutes indeed the distinctive characteristic of the Celt; that by which more especially he is separated as a variety from the heavier Teuton and harsher Iberian, and in which he transcends the classic ancients, and equals, if he does not surpass, the modern Italian. Now a people so constituted cannot fail, when civilised, to be brilliant and imposing in their era of national energy and force; but they will be liable to periods of fearful collapse, which would eventually become irremediable but for their racial baptism and renewal through the conquests and colonisation at appropriate ethnic periods, by the stronger Teuton.

Have we not in these few remarks a key to the history of

France, whether in ancient or modern times? The centre of at least the continental portion of the great Celtic area of the west, it seems, in conjunction with Britain, to have suffered from the collapse of energy and vigour, which in due sequence succeeded that period of greatness during which Brennus marched on Rome. Not that we regard this last event as marking the culminating period of prehistoric Celtic power and culture, which probably synchronised with, if it did not precede, that now almost monumental age of civilisation, of which we have such a living picture in the *Iliad*, and which we find represented on the tombs of the Egyptian kings, when the war-chariot constituted the most salient feature on the battle field, and when, at least in India, Chaldea, Assyria, Egypt, Gaul, and Britain, a high and holy priesthood, under whatever title, whether as Brahmans, Magi, or Druids, exercised a sacerdotal sway, of which that of the Romish clergy in the middle ages, was but a feeble echo. Without affirming with my friend, Mr. Luke Burke, that the Celts originated this early phase of civilisation, I think we are fully justified in affirming that they shared in it; Gaul and Britain constituting an integral portion of the area over which it prevailed.

We may now begin to understand the ethnic significance of the Roman conquest of Gaul. It was only possible as a result of that moral and physical collapse of the Celtic peoples which had succeeded their period of pre-historic power. But both the collapse and the conquest and colonisation which followed it, were partial as compared with that greater ethnic movement which accompanied the fall of the Roman empire, and eventuated in the immigration of the Franks. These conquests and colonisations from the south, however, demand much greater attention than they have yet received from anthropologists. We have been so accustomed, from what may be called our school histories, to regard the great conquering immigrations as necessarily coming from the north, that we can hardly realise the ethnic fact that Phœnician, Carthaginian, Roman, and Moorish conquest and occupation proceeded in an opposite direction. That of Rome, with which we have now to do, was a part of the great north-western movement of empire and civilisation, which constitutes the world-history of the last four thousand years. And we are not perhaps far wrong in saying that its effects were moral rather than physical, and are at present more manifest in the language than the ethnic type of the modern Gaul. Quite certain it is that Gaul was not racially regenerated by the Roman conquest. On the contrary, her people, in common with nearly all the European and Asiatic provincials, were left, as perhaps they were found, in a state of ethnic effeteness and prostration. The only true racial baptism of the Gauls within the period of

authentic history was that of the Teutons, mostly under the name of Franks, though by no means confined to that particular stock. Not so thorough and effective as that of England by the Saxons, Jutes, and Frisians, or that of Scotland by the Scandinavians, it nevertheless enabled France to take her place among the regenerated countries of western Europe, and even to worthily fulfil her exalted vocation as the *quasi* imperial centre of modern civilisation. This, perhaps, demands some little explanation.

From the dawn of history to at least the decline and fall of the Roman empire, civilisation seems ever to have tended to focalise its intellectual refinement and material resources upon some one centre, and so become for a time the especial appanage of one peculiarly favoured and imperial people. Assyria, Persia, Greece, and Rome are instances in point. Now, in a theological and ecclesiastical sense, no doubt, the Papacy was the successor of the latter. But socially and intellectually, if not also politically, the imperial mission, in so far as it has devolved on any one country, has been discharged by France; and she has done this, let us remember, upon the ethnic vigour and renovated racial force obtained through her Teutonic baptism.

But the colonisation of a Celtic area by Teutonic conquerors, however effective at the moment, can only be temporary in most of its effects; the sole permanent result apparently obtainable from the colonial extension of an alien people over a foreign area, being the mental and physical renewal, and in favourable cases, perhaps, the racial growth and development of the native and appropriate type of the country. Thus it is that the French of to-day, after twelve hundred years of Frankish occupation, are still the Gauls so vividly portrayed in the pages of Cæsar's "Commentaries"—more civilised and more cultured, but still the same impulsive, excitable, and variable people they were in the age of the mighty Roman. This brings us to the especial subject-matter of our present paper, namely the ethnic condition of the French people, and its relation to the momentous events with which we are cotemporary.

In some former papers, more especially the one on "Race in Religion," (October, 1866) I have endeavoured to show that the Celt, though less adapted to a theological mission than the Jew, and less artistic than the Greek, is nevertheless, from the refinement and spirituality of his nature, and the intuitive character of his intellect, to be accounted as among the most gifted of the sons of men. Beyond all question he is the most susceptible. Now a people so constituted will be especially liable to exhaustion, both individually and collectively, from the too rapid expenditure of their vital force, whether through their

passional impulses or intellectual activities, and will consequently need a more frequent or a more thorough baptism from their muscular correlates, than in the case of races less sensitive or less gifted. Now if these remarks are at all applicable to the Celts as a whole, they are emphatically true of the French,—being, as we have remarked, the key to their entire history. As a farther illustration of my meaning in this sentence, let me refer you to those portions of my former papers, already published in the *Anthropological Review*, in which I have endeavoured to show that the Celtic, like the Classic area, is duplex and bipolar; the French, in this epicycle of a previous era, representing the Greeks, while conversely the English are a maritime and insular reproduction of the Romans.

It is doubtful whether we yet fully understand the Gothic conquest of the Roman empire. For the most part we behold it through the spectacles of monkish chroniclers, and so unduly exaggerate the barbarism of the conquerors, and the evils of the conquest. Both the language and institutions of the Romanesque or Latin nations demonstrate that the invasion was less destructive than it is usually represented. But if less destructive, then, perhaps, we are justified in saying less recuperative. Now these remarks apply in an especial manner to Gaul, where the infusion of Teutonic blood over a large portion of its area was barely sufficient for founding a feudal nobility, as the Frankish lords of a Celtic peasantry. It was otherwise in Normandy and some of the Rhenish provinces, where the Teutonic infusion was adequate, as in England, to the ethnic regeneration of the great body of the people. The subsequent history of France thus becomes easily explicable. The Celtic population, refined but not regenerated by the Roman conquest, yielded like the other provincials to the great Gothic inundation, which, however, in their case was rather a military conquest than a true racial immigration. Two results followed. The old civilisation, as in Italy, being but imperfectly submerged, soon re-appeared; but conversely, the old ethnic effete-ness, being also but slenderly supplemented, has again become manifest, and the French are once more Celts, exhausted by an era of empire and civilisation, and so awaiting their inevitable baptism of bone and muscle at the hands of their Teutonic, and perhaps, also yet more remotely, their Slavonic neighbours.

As thus succinctly stated, I am well aware that this must sound very much like a plausible hypothesis, opportunely propounded to account for passing phenomena; but in truth it is not a new idea formed under the influence of recent events, but a conclusion deliberately arrived at from ethnic data many years since, and either alluded to or directly enforced, not only in

several of my papers in the *Review*, but also in my work on Ethnology, published in 1863, where, under the head of "France," I have pointed out the probability of an ultimate reconquest and re-occupation of Gaul by Teutonic invaders.

Thus contemplated, the ethnic history of the Frankish conquest of Gaul is easily understood. A body of comparatively rude, though brave warriors, settled down as victorious and invading colonists among a people not only more civilised, but also more nervous and organically refined than themselves—as a result they soon adopted both the religion and the language of their subjects; unfortunately, in process of time they also adopted their manners and morals, and so became the most gallant and accomplished, and perhaps, with the exception of the Italians, the most profligate nobility in Europe. This was the condition of the French court from at least the decline of chivalry to the revolution, although even as early as the days of St. Louis, a decidedly Celtic type of character is perceptible in the nobility, and more especially what we should call the gentry, of France. The Teutonic element in the south and centre was becoming absorbed, and as a result feudalism disappeared, and was superseded by clanship, the clan in this instance, however, being the nation, and its chief, the Grand Monarque.

The age of Louis XIV was to France what that of Pericles was to Athens, and that of Augustus to Rome,—the culminating point of a mingled race; that is, the period when a subdued but gifted people of high nervous temperament, having thoroughly re-absorbed their alien conquerors, once more emerged into their appropriate activity and splendour of intellectual manifestation, characteristic of their type in its periods of positive energy and creative power. In saying this, it must not be supposed that we would rigidly limit modern Gaul's period of intellectual supremacy to the reign of her most distinguished monarch. In letters it extended to the death of Voltaire; in science to that of Cuvier. During the latter part of the seventeenth and most of the eighteenth century, the scholars and *savants* of France ruled the more cultured classes of the civilised world as acknowledged autocrats. Even in the youth of men not yet more than elderly, Paris was the world's centre of scientific activity, whereto the most advanced minds of England and Germany willingly resorted for the completion of their higher education, and whence issued those ideas and systems which have acted as the great moulds of thought to our own time. But, alas, how is all this now altered. Where are the successors of D'Alembert and Lavoisier, of Cuvier and La Place? Where are the rivals of Racine and Corneille, of Bossuet and Voltaire? There are still plenty of men of talent, but

where are the colossal master-minds, each a sun in his own sphere, who made Paris not only the glory of France, but by universal acknowledgment the intellectual metropolis of modern civilisation. They have departed, and left none worthy to fill their exalted thrones and draw that reverential regard once so loyally accorded to the leaders of French intelligence, as men beyond dispute in the vanguard of European progress.

Now it is worthy of remark in this connection, where our purpose is to show the gradual absorption of the Teutonic, and the emergence of the Celtic type, that whether in her present decadence or in her palmiest days of intellectual splendour, the literature of France was not Germanic but essentially Gallic in character, being distinguished by beauty and polish rather than depth and earnestness; the form being obviously regarded as of more importance than the matter; the graces of style holding the first place, grandeur of thought and sublimity of sentiment the second. It is the same with French art, which, less pure and therefore less elevated than the Greek, is nevertheless eminently decorative and ornamental in its lower phases, being the product of refined taste rather than creative power. Similar remarks are applicable to French music, which, faultless as regards glaring defects, is nevertheless wanting in depth of feeling and power of expression, being obviously the product of a mental constitution less vast and massive than the German. We suppose it is almost needless to say that French diplomacy is also eminently Gallic, being distinguished rather by fine tact and delicate finesse than by that profound subtlety so characteristic of the Italians.

We can readily understand that a people thus characterised would be eminently brilliant in their military undertakings, their successes, however, being generally short-lived, and more productive of present glory than of solid and lasting advantages. These qualities were manifested under the great Marshals of the Grand Monarque; but they culminated, and we may add collapsed, under the First Napoleon, while unfortunately they collapsed without culminating under the Third.

The French, then, are and have long been Gauls, not Franks. They would, doubtless, eventually have become so, through the slow but sure process of racial absorption and amalgamation, whereby alien intruders on a foreign area are eventually lost in the native type. But two events of comparatively recent occurrence have materially contributed to and doubtless hastened the completion of this result. We allude to the massacre of St. Bartholomew and the Revocation of the Edict of Nantes on the one hand, and the revolutionary slaughter of the French nobility on the other. By the first a large number of those who inclined

to the doctrines of the Reformation, which as a Teutonic movement doubtless attracted the Teutonically constituted minds of the country to its standard, were either slain or expatriated, while a similar fate attended the remains of the Frankish nobility at the hands of the ferocious republicans of 1793.

Do we not see the effect of these destructive processes in that absence of master-minds by which France has been unhappily characterised during the last generation? This dearth of all commanding genius having at last manifested itself not only in the sphere of thought but also of action, so that the greatest military power in Europe has suddenly, and we may almost say shamefully, succumbed in one short campaign, partly, no doubt, from the frightful corruption pervading every department of the imperial Government, but in part also from the lamentable fact that France in her hour of crisis has found no soldier competent to the true leadership of her gallant legions. She has brave men, but she has no generals. The country whereto our ablest officers once resorted as the especial school in which to learn the art of war, is now without a single strategist to marshal her forces. Is she not also without a single statesman competent to the guidance of her fortunes? Neither is this phenomenon altogether new, for at the first revolution, after the death of Mirabeau, what remained for France but a choice between chaos and the Corsican—whose nephew, alas! has not proved a reproduction of his uncle.

Is there not a fatal evidence of weakness in this repeated resort of a great people to foreign leadership? Had not Rome her Cæsar, England her Cromwell, and America her Washington under the like trying circumstances? Why, then, was France compelled to have recourse to the Buonapartes, and why, when the second proved a failure in her hour of need, has she shown herself so pitifully devoid of all true self-help in his absence? There is, we fear, but one reply. France is not what she was in literature, science, or art, in statesmanship, diplomacy, or war; and so denuded of her great men, devoid of those elements of genius that once made her the envy and the admiration of surrounding nations, her soldiers are defeated, despite their valour, in every battle; and she who was the terror is now an object of pity to the civilised world.

Having thus surveyed the French, let us now glance at the Germans. The Teutons have done great things in the world. As we have said they conquered the Roman empire, and they inaugurated the Reformation. Tall of stature and large of limb, fair-haired and blue-eyed, they present us, more especially in the Scandinavian variety, with the beau ideal of robust, vigorous,

and large-hearted humanity, dwelling in a temperate clime. They are framed on a grand scale, and are obviously intended as providential instruments for the effectuation of vast deeds and the utterance of profound thoughts. They are as yet but in the morning of their blushing youth, which, however, gives promise of a most heroic and imperial manhood. They are the reserve force of the West, which always comes into play when the more nervous races have been exhausted by the morbid excitement of their corrupt civilisation. They are the osseous and muscular pole of European humanity. To them we owe the regeneration not merely of Spain and Italy, but also of Gaul and Britain, after the decline of ancient civilisation. Modern Europe is largely of their making. Its feudalism was of their founding, and its institutions bear everywhere considerable traces of their influence. It is impossible to over-estimate our obligations to such a race. They made mediæval Italy to differ from Greece, and it is their larger presence in Britain which differentiates her from ethnically exhausted France.

They are the greatest musicians in the world, the massiveness and grandeur of their nature being more especially reflected in the wondrous sublimity and power of the oratorio. Handel, Haydn, Mozart, and Beethoven are still unrivalled as the masters of composition; Kant, Hegel and Fichte, Goethe, Richter, and Schiller are an earnest of their ability for philosophy and letters; while Humboldt, Oken, and Linnæus show us what they can accomplish in science. Martin Luther, the greatest reformer in the past, and Moltke, the greatest strategist in the present, are also of this commanding race. Such spirits are an earnest of the future. A people who while at an incipient stage of political and social development, have been able to produce such men, cannot fail to exercise a deep and lasting influence not only on European civilisation, but on the progress of humanity collectively. As barbarians they carved their names indelibly on the pages of history, which they will doubtless hereafter fill with the records of their united action and their disciplined power.

It has been said that what we now see in this Franco-Prussian war is the contest for European supremacy between the Teutons and Celts in their two especially representative nations; but if so, this contest did not commence yesterday. The border wars on the Rhineland were in full activity in the time of Cæsar, and but for the presence of the Romans it is very obvious that the Germans would have entered Gaul *en masse* long prior to what history narrates as the great Gothic invasion of the empire. That invasion of the political followed at the distance of a millennium by its counterpart and continuation, the Protestant invasion of the Papal empire, are adequate evidence of the

weight and importance of the Teutonic element in the racial balance of European power, and are also demonstrative of the fact that that importance is not a thing of yesterday. From the remarks already made in the present paper, and from the general tenor of my other articles, it will be readily understood that I regard this occasional supremacy of the Teutons as more immediately a result of the exhaustion and collapse of the more nervous classic and Celtic races on their southern and western border; these more nervous races being the true leaders, and pre-eminently the intellectual representatives of Europe. Now the truth or fallacy of this idea is not, like some other rather recondite race questions, a matter for the discussion and amusement only of Anthropologists, for on its decision depend our interpretation of the past, and our legitimate anticipations as to the future history of Europe. Let us then glance for a moment at this department of the subject.

Of the bipolar arrangement attaching to many, if not all the well-marked racial divisions of mankind, we have already spoken; and we have also glanced at the principle of the cycle and the epicycle. Now, if we would rightly interpret the deeper meaning of this Franco-Prussian war, our investigations must be guided by both these important principles, for each comes into play in the inquiry such considerations involve. And in the first place let us ask, is it possible for the muscular correlates of a nervous type to effectually discharge the higher intellectual mission of the latter during their period of collapse? This, translated into the special terms applicable to present and passing events, means: Can the Teutons, and more especially the Germanic division of this great race, assume the true political, social, literary, æsthetic, and scientific leadership of Europe, and through it of all modern civilisation, during the possibly impending collapse of France? Judging by the teachings of history we should say decidedly not. Neither in Asia nor in Europe has such a transference of function been effected. The only possible substitute for one nervous race is another. The imperial centre of civilisation in its stupendous march from the Euphrates to the Seine has never diverged into Tartary on the one hand, or Mauritania on the other. Neither at the collapse of classic civilisation did it take flight to the Elbe or the Danube. It simply subsided until enabled to rise again, if not on its old site, then at least on its former line, that is, in northern Italy and France. Thus contemplated, the probability is that Germany, however victorious in the field, will not be able to assume the mission of France, and lead Europe through all her manifold phases of advancing culture to her ulterior destiny.

We are fully aware that other than merely racial considerations should enter into the attempted solution of problems involving such multiform data, and such stupendous issues as those we are now discussing, and to some of these we will now succinctly allude. In the first place Germany has not quite outgrown her age of feudalism. Her unification is only now in process, and she has no capital like Paris or London to represent and reproduce the Romes and Babylons of antiquity. Such a country, then, is not yet politically qualified for exercising the important function of European centrality. She cannot truly lead the nations of western Europe, because in her own internal political life she yet follows, *longo intervallo*, in their wake. The utmost, then, of which Germany is capable in this direction, is military supremacy; and of this she was largely in possession during all the earlier ages of the old Germanic empire, indeed till the death of Charles V.

And here a great anthropological question is presented for our consideration, namely, is not this very political condition an effect, and in a certain sense, a reflection of the vast and gigantic, but as yet imperfectly matured, German mind? To answer this question, let us ask what have the Germans done? And we reply, they destroyed the political empire of ancient Rome, but *virtually* they could not erect another in its place. So they shook the Papal Church, but no one will affirm that their conflicting and sectarian Protestantism represents another. And it is the same in literature; they criticise and annotate, but they do not *create*, except in music, perhaps, as we have said, the mighty promise of their great hereafter. This summed up in other words, implies that the German mind is analytic and not synthetic in its profounder constitution. Hence it can pull down but it cannot build up, or if so, only with enormous labour, as in the achievement of something for which it is imperfectly qualified. No wonder, then, that such a people were slow in effecting their political unification. Nor must we be astonished that they have as yet assumed no true leadership in manners, taste, literature, or science. The truth is that morally, as well as physically, they are supplementary to the more matured though less massive peoples of the south and west. As they conquer and ethnically baptise the more susceptible types at their recurrent periods of racial exhaustion, so in matters ecclesiastic and literary, they come to the front when the more creative peoples are in a condition of intellectual collapse.

We are now, then, in a position to define the mental and military phenomena manifested by modern Germany. Her intellectual activity, and consequently her European influence at the period of the Reformation, were due to the exhaustion of

the Papal Church after an unchallenged reign of a thousand years. So her sudden display of energy and ability in philosophy and letters, at the close of the last and beginning of the present century, must be ascribed to the approaching collapse of the French mind in the same departments. Just as her military triumphs at the present moment may be attributed to the fact that the advancing effeteness of France, after having pervaded her higher intellectual circles, has at last penetrated to her civil and military administration; in both, but more especially in the latter, of which she was once acknowledged supreme.

And now, granting the general truthfulness of the foregoing hypothesis, it may perhaps be asked, what is to be the result of this subsidence of a leading Celtic people, and the consequent military triumph of their Teutonic invaders? And we reply, the transference of European leadership to another Celtic people, lying one stage farther on in the north-western line of empire. This, of course, means the assumption by Britain of such portions of the mission of France as the latter may be compelled to surrender. And thus we are brought to the application of that law of cycle and epicycle to which we have already alluded. If France and Britain reproduce and represent on a Celtic area the Greece and Rome of history on a Classic area, then we may know somewhat of the real nature and ultimate extent of the phenomenon of national collapse with which we are cotemporary. We are not witnessing the subsidence of the entire Celtic race, but only, as we have said, a partial transference of the mission of one of its nations to another, equivalent in character and effect to the subsidence of Greece and the rise of Rome. Now Greece, during the entire period of classic supremacy, never lost either her literary or artistic mission. The latter more especially remained her inalienable possession, so that Rome at the maximum of her imperial greatness, not only sent her chosen sons to Athens for the completion of their culture, but she also invited artists from Greece both for the erection and the decoration of her superior edifices. Judging, then, by the prior event, France will still retain her leadership in manners, fashion and taste; and Paris will still remain the capital of politeness and courtly civilisation. We are perhaps justified in saying that the mission of Britain does not embrace these things, whether we regard the character of her people and her antecedents, or the destiny and function of her imperial predecessor. Not that we would be understood as demanding that the epicycle should, in all respects and in the minutest details, reproduce the cycle. This were unwise, and would show in its results that it was the mere

pedantry of philosophy. The true mission of Britain thus far has been political, colonial, commercial, and industrial. She has set the great example of representative government in combination with a constitutional monarchy and an hereditary aristocracy. Her advance in liberty has been through a process of healthy growth, and by the normal development of her native institutions. She prefers reform to revolution, and has thus set an example which Germany, Italy, and even Austria, have been but too happy to follow. Her colonies far exceed in area the entire extent of the Roman empire, and such has been their increase in population and resources, that she has not been inaptly called the Mother of Nations. Of one great republic, the foremost in the world, she can at least boast the maternity. Nor is it a small thing to say, that eighty millions of civilised men now use her language as their native tongue. Nor do we exaggerate in affirming that ere the close of the present century, more than one hundred millions of English-speaking people will be found occupying some of the most fertile countries and most favourable commercial positions on the globe. London is already the exchange of the world, and the true metropolis of commercial civilisation. In wealth, population, resources, and influence she is already imperial, and may be said from her very magnitude to imply the promise of a stupendous futurity. Of Britain it may be truly said that her merchants are as princes, and we may add, that her captains of industry are as kings.

If, then, France is losing a certain portion of her centrality, what country in Europe is so fitted for assuming it as Britain? Nay, we may go yet further, and affirm that she has already entered upon some of her imperial functions. Those familiar with my writings will know that I expect yet others to devolve upon her. Regarding England as the geographical terminus of the north-western march of civilisation, I anticipate its culmination on this island, and with this the summation and reproduction of all past imperial missions known to us throughout the historic period. I cannot of course expect others to go with me thus far, and am therefore quite willing that this should be regarded as an individual crotchet. Let it indeed be distinctly understood that throughout the foregoing paper I have aimed, not to dogmatise, but simply to suggest matter for the thoughtful consideration of our members, and of Anthropologists in foreign countries. In attempting this I may have fallen into grave errors, which, however, are of less consequence, as before such critics the chaff will soon be winnowed from the wheat, of which if only a few grains remain, my labour will not have been wholly in vain.

DISCUSSION.

Mr. LEWIS said that there were some points in Mr. Jackson's paper on which he should be glad to hear some further evidence, as, for instance, the suggestion that racial characteristics were formed by the area in which they were found. Mr. Jackson had also spoken of a baptism of races by intermixture, but he himself had been unable to find that races did really permanently mix; and even Mr. Jackson, in his paper, spoke of the modern French as being the same as the ancient Gauls, and of the Frankish element as entirely absorbed; or, as he himself would prefer to express it, entirely eliminated. Most authorities agreed that modern civilisation was the descendant of the old Roman civilisation, which was preserved by the Roman and Celtic inhabitants of the cities as opposed to the Teutonic invaders who mostly settled in the country, and who certainly could never have introduced to the former inhabitants a civilisation which they themselves did not possess. The permanence of the Teutonic conquests he attributed partly to the ungenerous spirit in which the Teutons exacted the utmost gain possible out of any advantage they obtained; and partly to their greater fecundity, which might be considered by Mr. Jackson as a proof of racial effeteness on the part of the Celts; but, as regarded the French, was attributed by the Registrar-General to the latter marrying at a later age than the Germans.

Dr. CARTER BLAKE felt compelled to dissent from many of the initial facts on which Mr. Jackson's conclusions were based. Firstly, could it be said that the French were physically inferior to the proportions they presented some time ago? M. Paul Broca had entirely answered that allegation by elaborate tables and maps, which the speaker produced. These showed that not the slightest diminution had taken place in the stature of the French army. Secondly, Mr. Jackson spoke of the "baptism of bone and muscle" by the Franks. But how were we to be sure that the Franks and the Gauls were not both of them Celts? The Franks had been alleged to be light-haired, but such a statement really rested only on the authority of the novelist, M. Eugene Sue, in his *Mystères du Peuple*, and not on sound anthropological induction. He thought it probable that the Celtic area in classical times extended far east of the Rhine. Thirdly, Mr. Jackson spoke of the French as "the last Latin nation"; the pith of his earlier observations, however, was to prove the French Celts; and they could not be Celts and Romano-Latins in the same breath. Fourthly, had the pure Celts deteriorated in bravery? The answer was that the Bretons in the Garde Mobile, and especially the Breton sailors under Breton admirals on land, and under General Chanzy, had fought long and manfully against superior numbers of well-disciplined troops. Fifthly, had the pure Celts deteriorated in intellect? We had only to look at the French school of anatomy and of anthropology, admittedly the greatest in the whole world. The Germans might be superior as physiologists, nor would he attempt to detract from individually great German reputations; but French and Slavonic minds have produced all the great anatomical discoveries of the present century. Sixthly,

he utterly failed to see the parallel between the state of Greece under Pericles, and of Rome under Augustus, with that of modern France.

Mr. W. C. DENDY, while expressing his admiration of the learning and deep research displayed in the paper of Mr. Jackson, regretted that its voluminous discursiveness rendered it so difficult of discussion. From the various ideas regarding the racial elements and the varieties of character arising from miscegenation, etc., ethnology was often extremely puzzling. He believed, for instance, that the musical glory of Germany was much indebted even to Hebrew associations, and was not the result of pure Teutonic genius. In referring to the war between the Teuton and the Kelt as an ethnic question, it was clear that the racial element must not be deemed paramount in explanation of its one-sided conclusion. The Kelt displayed quite as much heroism and power of endurance as the Teuton. The secret of success in the engagement is also often dependent less on the high quality of the forces than on the pre-eminent skill and strategy of their leader; so essential is it to have the right man in the right place for the insurance of victory. The two Napoleons commanded armies of the same racial elements, the first with a more copious sprinkling of conscripts or raw recruits; but the consummate genius of the uncle was the diametric contrast to the shallow tactics of the nephew, as displayed in the passage of the Alps, the almost superhuman prowess at the bridge of Arcola, and the redeeming of the lost battle at Marengo. The result of these conflicts, also, often hinges on the prestige of the *first success*, and we may even believe that, had the battles of Weissenburg and Forbach been won by the French, the progressive fortunes of the war, and the ultimate triumph would have been on the side of the Kelt and not of the Teuton.

Mr. LUKE BURKE, though not prepared to take so gloomy a view of the future of France as Mr. Jackson's paper had set before them, could not but confess that events seemed rapidly tending to justify Mr. Jackson's conclusions. He would be glad to believe that in the event of the collapse of France her unfulfilled mission would be taken up by England; but if so, England would have to cast off her present parliamentary rulers and their one-sided theories of peace and non-resistance, and take more rational views of the condition of humanity in the present era of the world. While acknowledging the general accuracy of Mr. Jackson's comparative estimate of French and German intellect, he could not subscribe to the importance so generally attached to the metaphysical tendencies and writings of Germany. On the contrary, these appeared to him to indicate attributes the very reverse of those which should distinguish clear and powerful thought.

Mr. G. HARRIS said that there were two points connected with the discussion to which he desired briefly to advert. In the first place, he thought that sufficient allowance had not been made for the extensive changes which, wholly independent of race, take place in the character of nations in the course of their career. This was particularly seen in the case of both the Prussians and the French, as they each appeared during the late war, and in those under the first Napoleon. The French

soldiers had undergone an essential change in all their most important characteristics, in point of subordination, of devotion to their officers, of discipline, of endurance, in all that contributed to form efficient soldiers. It had been remarked by one speaker that this could be accounted for by the conscriptions under the first Napoleon, which had emasculated the French nation. But the Prussians had suffered from the wars which were then carried on proportionately with the French. For instance, in the Russian expedition, Napoleon took with him thirty-two thousand five hundred Prussians, most of whom were lost; and thirty-eight thousand Prussians fell at Ligny and Waterloo. The real fact is, that the characters of nations are extensively changed by various influences, as may be seen in the case of Italy, and Greece, and Spain. The other conclusion which he drew from the present discussion was, that education was more powerful in its influence than was race. Prussia had been educated, and was prepared for the late encounter, while the military education of France had been wholly neglected, and both the people and the soldiery had become enervated by luxury.

On the motion of Mr. J. KAINES, seconded by Captain BEDFORD PIM, the discussion was then adjourned until March 20th.

MARCH 20TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE minutes of the last meeting were read and confirmed.

The following new members were announced: JOHN EDWARD BREARY, Esq., Madras; and WILLIAM SLOAN, Esq., Luz, Madras.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From Dr. J. BARNARD DAVIS, F.R.S.—Honduras; Descriptive, Historical, and Statistical. By the Hon. E. G. Squier, M.A.

From Dr. R. KING.—The Manx Dictionary, vol. xiii; and Letters to a Candid Enquirer on Animal Magnetism. By Dr. William Gregory.

From the SOCIETY.—Proceedings of the Royal Society, No. 126.

From the SOCIETY.—Journal of the Asiatic Society of Bengal, part ii, No. 4.

From the EDITOR.—Nature, to date.

The Discussion on Mr. J. W. Jackson's paper, "The Racial Aspects of the Franco-Prussian War", was resumed by

Mr. J. KAINES, who asked what signs have French Celts given that they are "a decaying nervous race", needing "ethnic baptism" at the hands of the "osseous and muscular Teutons", or Germans—in what department of human thought or effort? He then touched cursorily (and very briefly) on the causes of Prussia's recent successes on the battle-field—her iron discipline, whereby her hordes were wrought into so many merely animated machines. He showed that the French were outnumbered and overwhelmed up to Sedan; and afterwards France had mainly raw levies and volunteer soldiers, who had never smelt powder, to depend upon; and these could not cope with the disciplined warriors of Germany. Mr. Kaines objected to the phrase so frequently to be found in Mr. Jackson's writings—namely, "ethnic baptisms"; and suggested that "ethnic extreme unctions" would be a better phrase. "Ethnic baptisms" was a new name for brute force, against which all civilisation protests. All laws, religions, and politics, are framed to suppress, if not extinguish it. To the statement, that modern "French literature was deficient in depth", while German literature was characterised by it, Mr. Kaines replied that Mr. Jackson had mistaken lucidity and logical order for superficiality—qualities certainly not possessed by Germans, who mistook cloudiness and mysticism for depth, and general unintelligibility for profundity. Their depth, indeed, passed all understanding: Hegel and Richter were quoted as instances of this. German philosophy was subjective mainly, and dealt with what had no existence outside the brains of the thinkers; while French philosophy was mainly objective, and dealt with things which are: hence the difference between German and French philosophers and *savans*. German works on philosophy were written by philosophers for philosophers. German *savans* were deficient in the faculty of generalisation—Oken, for instance. Max Müller admitted that the Germans were uninventive. Until the time of Goethe and Schiller, they had no poetry worthy of the name—nothing but imitations, mostly bad ones, from the French. Menzel, in his review of German literature, speaks scornfully of this. The German drama, when not romantic—i.e., unreal—was maudlin: Kotzebue's plays were instances of this. German fine art was homely, photographic in detail, and deficient in breadth and ideality. German histories, in the opinion of Carlyle (no mean judge), were Dryasdust collections of facts, as uninteresting as a post-office directory, without its order and lucidity.

In answer to the statement of Mr. Jackson, that there had been "a dearth of French master-minds during a generation", Mr. Kaines quoted, at random, the names of the following illustrious persons. *Science*.—Comte, Broca, Boucher de Perthes, Arago, Broussais, De Blainville, Geoffrey St. Hilaire, Quatrefages, St. Claire de Ville, Pruner Bey, Bichat, Berthollet, Pouchet, De Candolle, and Biot. *History*. Guizot, Thierry, Michelet, Mignet, Carrel, Taine, Louis Blanc, Janin, Bonnechose, Martin, and Villemain. *General Literature*.—Cousin, Royer-Collard, Jouffroy, Chateaubriand, Mignet, Littré, Lamartine, Victor Hugo, Beranger, Alfred de Musset, and others. Mr. Kaines asked what a nation (or race), producing such men, gained by "ethnic

baptism" with Germans (or Teutons)? Had not French Celts everything to lose by it; the Germans everything to gain?

Mr. Jackson had made the statement that "the Reformation was a Teutonic movement." The "insurrection of the human mind against absolute power in the intellectual order," as Guizot finely called it, was contemporaneous in France (Celtic), England (Mr. Jackson says Celtic also) Germany and the United Provinces (both Teutonic). In England, France, and Holland the Reformation worked out a political as well as religious freedom—not so in Germany. Germany lacks political freedom this day, as the imprisonment of Gervinus, for writing, not a political pamphlet, but a grave history of his own country from other than the point of view of the military junkerdom which rules Germany—bears witness. In the addresses recently presented to the new Emperor of Germany the word "liberty" occurs painfully often—a thing even Germans begin to be in need of. The Germans are not only incapable, as Mr. Jackson admits, of heading the modern social movement, but they are in the rearguard of civilisation. Their "osseousness and muscularity," in which Mr. Jackson so delights, proves them to be a backward people, needing "ethnic baptism" at the hands of a more civilised race.

Mr. BENDIR observed that Dr. Blake had declined to accept Mr. Jackson's conclusion as to the ethnic exhaustion of the French Celts of to-day, because Professor Broca had collected statistics intended to prove that Frenchmen had not deteriorated in their *physique*. Two facts appeared to upset the lesson drawn from Broca's figures. The standard of height in the French army had been lowered three times in sixty years, and the population of France was not increasing of late so fast as it used to do. These facts lent some support, he thought, to Mr. Jackson's statement. Dr. Blake had called attention to the eminence of the French as anthropologists and anatomists, whilst he considered the German school of physiologists as the superior one. Difficult as it would be to connect this opinion with the racial aspects of the war, there was but little foundation for it; the science of anthropology having sprung up in Germany and flourished there ever since: the literature on that subject was fully equal in value to French anthropological literature, and the publications of the late Anthropological Society of London proved it. That learned body had issued translations of six standard works bearing on the Science of Man,—of which three were by Germans, two by Frenchmen, and one by an Italian. In anatomy also the Germans held their ground. Dr. Blake had testified to the accuracy of Spurzheim's observations on the anatomy of the brain; Owen's high opinion of Oken as a teacher of and discoverer in comparative anatomy would perhaps carry some weight; Carl Ernst von Baer, more illustrious even than Oken, was hardly ever alluded to by men like Huxley and Darwin without some epithet of commendation. But in microscopical anatomy, which now most particularly engaged the attention of all earnest students of that science, the leaders were all Germans; and the names of Virchow, Kölliker, and a host of others would be a sufficient answer to Dr. Blake, who was so thoroughly competent

to appreciate their labours. Science was, in fact, the common heritage of all civilised nations ; and for the last hundred years the French, the Germans, and the English had cultivated it with equal success. If the French were more brilliant, the Germans were more profound, and no doubt would remain so in spite of the strictures of Mr. Luke Burke.

Dr. CHARNOCK said Mr. Jackson stated that the Keltic nations of the nervous stock are effete. But which of the Keltic nations were, and which were not, of the nervous stock ? He (Dr. Charnock) looked upon the Gaels, Irish, Welsh, and Bretons to be all of the nervous stock. The author of the paper stated that the French have acquired their superiority up to the present time through a muscular baptism with the Franks ; and they must now have another baptism with German blood. No doubt at the time of Tacitus and Cæsar the Galli were a rude nation ; but so were the Germani. Both nations were pagans : Mercury was the chief god of the Germans, and did they not worship him still ? According to Gibbon, the Galli, at the epoch of the Frankish anabasis, were a polished nation ; and what did Gibbon say of the Franks ? They were barbarians, were of inconsistent spirit, and noted for their disregard of the most solemn treaties, and for their thirst of rapine. And what was the proper estimate of the French at the present day ? He (Dr. Charnock) said, and did so advisedly, that notwithstanding all that had lately happened, the French were the most refined, the most civilised, and the most intelligent people of Europe. Mr. Jackson said the English people are of Keltic origin. It was time that such a heresy was put an end to. None of the reasons that had been adduced by authors to prove this fact were of any weight. No doubt both the English and the Welsh were for the most part dolichocephalic, but Dr. Barnard Davis, who had examined skulls both of the ancient Saxons and the Galli, proved that sixteen out of the nineteen of the former were dolichocephalic, and that four out of six of the latter were brachycephalic. Instead of re-baptising the French, it would be better to baptise the Germans.

Col. A. LANE FOX said he would confine his remarks to the subject of the paper ; viz., the Racial Aspects of the War. Nations, like individuals, may be great in literature and the arts ; but, if deficient in warlike qualities, are liable to succumb to others less refined, but more powerful, than themselves : and the main question for consideration in the paper, he thought, was, whether the results of the recent campaign were attributable to racial qualities, or to other causes. As a military man, he dissented from those who had expressed the opinion that racial characteristics had nothing to do with victory. All history showed that the two nations in question possessed special qualities which adapted them differently to the purposes of war. He took the liberty of quoting from Dr. Robert Jackson's work, *On the Formation, Discipline, and Economy of Armies*, which was written towards the close of the last century. Dr. Jackson describes the military character of European nations ; and his opinion is valuable, not only as an ethnologist, but on account of his practical experience as an army-

surgeon in the field. He speaks of the qualities of the French soldier much in the same terms as those of the Gaul were described by Cæsar ; viz., impetuosity in the onset, want of consistency and perseverance in conflict, and ready recoil after discomfiture. Though of comparatively low stature, and of inferior brute force generally, he speaks of them as active and elastic : " Being well placed on their limbs, and well poised at the haunches, they move with ease and freedom, and sustain long marches with facility.... Not so firm to resist as many, and not so powerful in attack at close quarters, they are constitutionally impetuous, and susceptible of an enthusiasm which, striking by flashes, achieves great things where it is well directed." On the other hand, he describes the Teutonic races as remarkable for coolness and endurance. They meet their enemy deliberately, and preserve an unruffled temper, even in combat. Dr. Jackson speaks of the French as being uncertain in their fire ; whilst the Teutonic races, and especially the English, have at all times excelled in missile force. It is remarkable that this quality still adheres to the two races, although the French pay more attention, perhaps, to the training of their men in firing than any other nation. He (Col. Fox) had but little experience, but he had had an opportunity of comparing the English and French in the field ; and his own observations led him to concur entirely in the remarks of the able author whom he had quoted. He had heard French officers describe the warlike qualities of the two races in nearly the same terms ; and he mentioned one or two instances in which, by the accounts he had received, the same qualities appeared to have been evinced during the recent campaign. Whilst, however, concurring with the author of the paper as to the influence of race, he did not attribute the results of the campaign entirely, or even mainly, to this cause, but rather to the corruption of the French army under the Imperial system, and to the incompetence of the commanders during the early part of the war. Neither did he believe it could be regarded as a war of races. Too much, he thought, had been done by the press to conceal the fact that it arose out of the ambition of princes, from the mischievous abuse of power in the hands of a few ; and that the mass of the people of the two countries neither desired the war nor were responsible for the evils which it had caused.

The following gentlemen also took part in the discussion on this paper : Dr. King, Dr. Collier, Mr. Chinnery, Mr. Prideaux, Captain Bedford Pim, and the President.

Mr. JACKSON said he hoped he should be allowed rather more than the allotted time of ten minutes to answer so many objections. As there were distinct areas for the fauna and flora of the earth, we might be quite sure there were equally distinct areas for its human types. Hence the utter disappearance of the classic colonists of Northern Africa and the successive conquerors of Egypt. Hence, also, the gradual disappearance of the Turks from Europe, and, we may add, of the Gothic nobility from Italy, France, and Spain. The Teutons did not bring civilisation, but bone and muscle. Whether the Franks,

strictly speaking, were Teutons or not, was of small importance; Gaul was being gradually colonised from the north by a succession of Teutonic invaders for many centuries. The process was in full activity in the days of Cæsar, and Roman conquest only arrested the onward march of the invaders for a season, when it was resumed with more force than ever, and ultimately submerged the mistress of the world, as well as her provincials. France may still be a good school of anatomy; but her men of science no longer hold the commanding position they did in the days of D'Alembert, La Place, and Cuvier. Neither do her literary men influence the mind of Europe as they did in the days of Voltaire. France had not one right man in the right place, because her master-minds have disappeared. The Germans have genius, and that, too, of a grand and massive order; but their mental constitution is not adequately unitary and synthetic for exercising the exalted function of imperial centrality. The nervous susceptibility of a people is increased by civilisation, as is that of an individual by intellectual culture. But we must not despise bone and muscle, or hold a vigorous appetite in contempt. As the world is constituted, these are desirable even for an individual, and they are absolutely necessary to a people who would hold their own for successive centuries in the great arena of war and politics, where communities struggle for existence in the death-grapple of national rivalry, and where ultimately the weak succumb and the strong make good their position. It is rather a strange opinion that the Germans are not industrial. They were highly valued as workmen in France, and are regarded as among the best colonists that go to America. If the Reformation were not a Teutonic movement, then history is fallacious and geography is unreliable. Colonisation is the modern form of racial migration. Ethnic baptisms are as necessary now as of old. They are a part of the collective life of humanity. No doubt, dynastic ambition and diplomatic intrigues have had their share in bringing on this war; but it does not follow from this that it is not fundamentally and essentially racial in character and origin. Sovereigns and statesmen are not the masters, but the servants, of that power, which sternly concatenates "the logic of events". They may provide occasions, but they do not put true causes in motion; these are due to forces beyond their control. Alaric, no doubt, led the Goths to Rome, but he did so only in the sense of heading an inundation, whose well-springs and contributory streams were in full flow centuries before his birth. King William and the Emperor Napoleon, Bismarck and Moltke, were merely agents in this matter, for the transaction of an event as inevitable as the snowstorms of the coming winter, or the darkness of an approaching eclipse. It is to this level we must rise if we would contemplate the history of the past, or the political evolutions of the present, from a true anthropological standpoint. Our political prepossessions, and even our social preferences, must be cast aside as of no account in the scales of science, which depend in perfect equipoise from the golden balance of unalterable truth. I do not love France or admire the French less than some of their warmest advocates to-night. Have I not said they

are the Greeks of the Celtic area? Can I say more? But did it not happen to the Greeks that they culminated and declined, as is the destiny, sooner or later, of all the time-born? But, remember, Greece did not sink into barbarism till after the fall of Rome. She could not, for she had her own place, and with it her inalienable rights and prerogatives, implying her duties, in the classic scheme of civilisation. So France will never do more than veil a portion of her glory, while Britain, as the future representative of Celtic power and culture, comes to the front. We have also heard much abuse of the Germans, and my paper has been spoken of as pro-Prussian. There cannot be a greater mistake. I am not blind to the solid worth, the substantial virtues, the profound attainments, and the splendid organisation, civil and military, of our German cousins. But have I not said that, ethnically and geographically, they lie outside the line of empire, and that, consequently, although they have conquered, and may hereafter reconquer, unhappy France, they cannot supersede her? Have their greatest opponents to-night said more than this? But enough; as anthropologists we have but one aim, the truth as it is in nature, and to the attainment of this, let us hope that your observations, if not my paper, have in some measure contributed.

The following Paper was then read by the author :

III.—*On the PREHISTORIC and PROTOHISTORIC RELATIONS of the POPULATIONS of ASIA and EUROPE, in Reference to PALÆO-ASIATIC, CAUCASO-TIBETAN, PALÆO-GEORGIAN, etc.* By HYDE CLARKE, Esq.

[*Partial Abstract.*]

The question proposed for examination was the ancient extension of the Georgian (Georgian, Swan, Lazian, etc.) and other populations of the Caucasus. The evidence adopted was the ancient names of rivers, mountains, towns, and countries, in the classic geographies. Several hundred of these names were derived from Georgian words for "water" and "river", as *Mdinare*, Georgian; *Pshani*, Georgian; *Oruba*, Lazian; *Veets*, Swan (*Bedu*, Phrygian); *Gangalitz* (*Gangir*), Swan; *Tsqari*, Mingrelian. The mountain names, and those of some towns and countries, were derived from *Baal*, *Moloch*, and other "fire" roots. This language was classed as Palæo-Georgian, and a form of the Palæo-Asiatic, or General language, from which the Semitic, Aryan, Tibetan, Chinese, and other leading families of language, branched off. The structure of the language was illustrated.

The area in which these words were used was India, and India beyond the Ganges, Ceylon, Persia, Media, Bactriana, Arabia, Mesopotamia, Syria, Palestine, Asia Minor, the Caucasus, the countries of the Danube, Greece, Italy, Spain, Gaul, Britain, Ire-

land, and all North Africa except Egypt. This district is also that of the megalithic monuments.

This evidence of one uniform language having been adopted over so wide an area was taken as a proof of one dominant race having held empire.

Attention was called to the circumstances of the Khasias, who now build megalithic monuments, being mixed up with those tribes in the Himalayan regions, which now speak languages allied to those of the Caucasus.

The leading race spoke the Palæogeorgian language. This race is now represented by Caucasians of high physical type, speaking the Georgian languages, closely allied with the ancient language. These Georgians, and the neighbouring Circassians, have the reputation of being a handsome race, as were the Iberians of old.

Tracing the history by the best materials we can, the beginning would be a vast horde of tribes, like the invasion of Genghis or Tamerlane, under Caucasian leadership. These hordes founded an empire in India, one in Persia and Media, if not in its origin the same as the Indian empire. Of this Median empire, a chief seat must have been in Iberia, the Paradise of the Mosaic record. It was, however, in Nineveh and Babylon that its schools of written and other learning and of arts were formed. It is to Palæogeorgian sources we must look for the earliest forms of cuneiform, and for the decyphering of Akkad.

A southern invasion, like those made in after times, carried the hordes into Syria and through Egypt, and so into Lybia and Mauritania. From Egypt they were driven out; but they gave, in their own nomenclature, the earliest notions of Aiguptos, Aithiopia, Nubia, Thebai, etc., to the western nations. In Palestine they constituted the many tribes of the Canaanites.

The Mosaic records chiefly obtained from Palæogeorgian, and not, as supposed, from Chaldaean sources, give us most ancient materials. In Paradise we have a Caucaso-Tibetan nomenclature and district—Havilah, the land of gold (well conjectured to be Kolkhis), with its river Pison, or Pishon (the Phasis); Cush (which must have been Iberia), with its river Gihon (the Cyrus or Araxes); Assyria, with its river Hiddekel, undoubtedly the Tigris, and the fourth river Euphrates. The name of Evah suggests, as does the whole narration of the temptation, linguistic affinities. The contest of Cain and Abel, with the genealogy of Cain and Enoch, and the names of Tubal Cain, Lamech, etc., may have afforded the suggestion of a contest between the worshippers of fire and water, Baal and Ganga (Phallus and Yona). In the Tholedoth, or Book of Generations, in Genesis, there has been continued confusion from the Septua-

gint having assumed that Cush there meant Aithiopia. Thus, Ham, being made to represent a black race, also embraces in his family many high races. Japheth has been held to be the father of the Indo-Europeans or Aryans, when at such epoch no Aryans had descended to those regions.

Taking, however, Shem to represent the Semitic race, then Ham will be found to include in his tribes the Caucaso-Tibetans of Palestine, and of the regions then known. Japheth most possibly represented the Hispano-Iberians, about that epoch splitting off in a migration from some Dravidian centre in India, leading on Dravidian mercenaries and followers.

By taking Cush, the first son of Ham, to represent, not Ethiopia, but the country next to Havilah, or Kholkhis and Assyria—that is, Iberia—we get a concordance in the Tholedoth; for we have Havilah again next to Cush, and in the neighbourhood Raamah (most likely Armenia), and Nimrod, the founder of Babel. It is in accordance to find them allied with other Caucaso-Tibetans in the tribes of the Canaanites.

Mizraim and the Philistine may have appeared more properly referable politically to the group of Ham, than to those of Japheth or Shem; for the scheme is more probably rather that of political geography than of ethnology.

The period of the entry of the Caucaso-Semitic Israelites into Canaan gives us a chronological point in the history which will be 3300 or 3400 years; but the Caucaso-Tibetans had earlier entered Palestine, and had also built up an empire in Babel. The epoch can, therefore, be safely carried back to 4000 years, and for the beginning of the Indian invasion, perhaps, to 4500 or 5000 years.

Palestine was peopled with high and low races, addicted to superstitions, more or less licentious and barbarous. Upon them fell the Israelite invaders, as other Semitic tribes did on Syria and Mesopotamia. The Canaanites were gradually subdued; but their superstitions infected the invaders, and from time to time marriages were made by these with the fairest of the daughters of the Canaanites. In this way, and, perhaps, on the supposition of sub-Semitic tribes being led from Egypt by Caucasian leaders, we may account ethnologically for finding side by side, among the Jews, types so opposed as those approaching the African and those fair forms of earth's most beautiful daughters. Here there is a beauty whom Georgia and Circassia cannot surpass; there the thick lip and frizzly hair of North Africa. Thus Nature records, in generation after generation, the events of ethnological history in the long past.

The Caucaso-Tibetan, or middle empire of Mesopotamia, fell before the Semites, and afterwards became the prey of the

Medes and Persians. Here fire-worship in a milder form still held sway; here the cuneiform letters kept their own against the Phœnician; and the Akkad learning and arts were transmitted through the Assyrian to the Persian.

Part of the remnant of the receding race was driven among their free kinsmen in the Caucasus to take part in after times in the invasions of the Scythians, and in the kingdoms of Parthia and of Pontus.

Part of the conquered population remained under the Assyrian yoke: the main body of these are the Armenians and the Persians, who afterwards succumbed to the Aryan invasion, and adopted the Aryan languages, as they had the Semitic. It is in this way alone that we can solve an ethnological problem, the marked difference between the unquestionable Indo-Europeans, or Aryans of the west, and those of the east, each of discordant ethnological type.

The Persian and the Western European are diverse in every oriental eye; and they are connected by men of science because they speak Indo-European languages and have white skins. So far as the Armenians are concerned, and the Ossetinians, their languages are sufficiently remote from the main Indo-European stocks to have caused doubts as to their classification. The Georgians and Circassians, we now know, do not speak Indo-European languages with Indo-European grammar; and there are greater points of physical resemblance between them and the Armenians and the Persians than with the Western Europeans.

The fair solution is, that the Georgians, the Circassians, the Armenians, the Persians, the Koords, the Beloochs, and the Greeks of Asia Minor and Scio, do not belong to the Indo-European, but to another high race, preceding the Indo-European or Aryan, and for which another name must be found. *Caucaso-Asiatic* will do for the time. Many of the tribes of Caucasus may ultimately be assigned to a lower stock.

The phenomenon above described is analogous to that which we find in the case of the Hispano-Iberians and others. It is also that which has affected and disturbed the ethnological relations of India, where the Aryans played a high political part, as the Georgian element did in the Caucaso-Tibetan empire, and the Hispano-Iberian in Southern Europe. Ethnologically, the Aryans have a smaller share than the Caucaso-Asiatics in the higher populations of India. They are grafted on a natural Caucaso-Asiatic stock.

After the Semites grasped Mesopotamia, Asia Minor was attacked by the Hispano-Iberians. The Caucaso-Tibetan kingdom was maintained under the Amazons and the Lydians, and

by them were the ancient cities named, if not founded. The Hispano-Iberians were, after as short a reign as that of the Belgæ in Britain, beaten by the Pelasgians and Hellenes, who proceeded to settle on the shores. The Amazons were driven to the north-east shores, back and back, to the refuge-land of Caucasia. The ancient Lydian kingdom was held together till the fall of Cræsus. The languages of Phrygia, Lydia, Caria, Lycia, and Thrace, I assign, on the evidence of their remains, to the Palæogeorgian group.

In Hellas we find weaker traces of Caucaso-Tibetans than in some other places, but still undeniable evidence. Traces of the Hispano-Iberians are also weak. True Indo-Europeans, the Hellenes swept over the countries, wasted them, filled them with their people and their language, turned such natives as were saved into slaves, and crushed out the ancient records, destroying the civilisation of ages. To the north of Greece and Italy, the countries to the Danube had been occupied by the Caucaso-Tibetans. Who were the Pelasgians may depend on a better knowledge of the ethnology of the regions north of Hellas. In Italy, the Caucaso-Tibetans must have been better preserved than in Hellas. Their nomenclature is decided. The Latin mythology is grounded on Caucaso-Tibetan bases, modified in later ages by importations from Hellas and the east. The Caucaso-Tibetans had, however, been supplanted by Hispano-Iberians and Ligurians in the north. South, and in Sicily, it is probable migrations from Asia Minor were the continuance of traditional intercourse, and that the so-called Greek colonies were only successive movements in the old tracks from the Tibeto-Caucasian cities of the Asia Minor coast.

The Etruscan problem is another that offers itself to us for consideration under the new light. It has been helplessly tried by the aid of Armenian and Celtic; but it has not before been subjected to the test of Palæogeorgian. The confused statements of Herodotus have driven inquirers from the way; for, though a connection with Lydia has been sought, it has been under feeble guidance. In this early stage, and amid all the confusion, ethnology favours the connection of the Etruscans with the Caucaso-Asiatics, for such the features on the monuments delineate. The style of art, the march of civilisation, help to strengthen the conclusion. Comparative mythology will show that the Etruscans delivered to the Romans much of the Caucaso-Tibetan worship. The names of places show that the country was held by the same population as in Italy; and to find another equivalent population for the Etruscans, having set aside an Hispano-Iberian and an Aryan origin, we can only accept the Caucaso-Tibetan. The language in its scanty materials shows resemblances to the ancient languages.

From all these circumstances, we shall obtain elements to mark out in the Italian population, the Caucaso-Tibetan and some Ligurian in the south, Aryan in the centre, then Caucaso-Tibetan, and further in the north Ligurian or Hispano-Iberian, possibly some Celtic.

In Spain, again, the traces of the Caucaso-Tibetan are feebler, because Spain was subjected to a long Hispano-Iberian domination and to a large Celtic invasion. The great river-names, however, belong to the main group.

Mauritania offers suggestions of intercourse with the Caucaso-Tibetans before the time of the Iberians and Phœnicians.

The great rivers in Gaul, some traces in the river-names of Hibernia and Britannia, the very names of those islands, but more particularly the megalithic monuments, speak of a Caucaso-Tibetan occupation, and to this may be owing some of the high and low types, which distinguish Ireland at present. The invasions to which Gaul and the Britains have been subjected, and particularly those by Hispano-Iberians, Celtæ, and by Germani, sufficiently account for the paucity of remains of anterior races.

For Germania we have nothing but the names of the great rivers, and no testimony as to its relations with the great Tibeto-Caucasian horde.

The general results are these :

The determination of the ancient and modern extension of the Georgian races and languages, and their descent from High Asia, in common with all the great families of men.

Consequently, that of the ancient and modern extension of the Caucaso-Tibetan races generally.

The extension of the Caucaso-Asiatic stock in Western Asia, and its influence as an element in India.

The former influence of the Caucaso-Tibetans in Europe, and the existence of possible traces or reproductions of types in the present day.

The determination of the earliest epochs of civilisation, concurrent with that of Egypt, and representing one period of the Indian system of civilisation.

The connection of the prehistoric and protohistoric periods in Asia and Europe down to 3300 years ago, affording the means of connection and comparison of facts recorded at later dates, illustrative of the oldest written records. There is thus a commentary on the works of Moses, Homer, Hesiod, and Herodotus; an exposition of mythology, folk-lore, and tradition.

The propagation of fire-worship and river-worship, and of tree- and serpent-worship.

The establishment of a basis of reconciliation for the propagation of megalithic monuments, and the constitution of a class

to which some of the rock-cut monuments (the Lydo-Assyrian), gold and bronze ornaments, and other remains, may be more safely assigned.

The determination of an ancient language, the Palæogeorgian, near, in epoch and form, to the anterior language (the Palæo-Asiatic), the grammar of which has affected the philology of the old continent, as exemplified in the remote languages of South Africa, as well as in general philology. The assignment to the Palæogeorgian group of Phrygian, Lydian, Carian, Lycian, Thracian, and Etruscan.

The establishment of the Palæogeorgian, or Akkad records, as deserving of investigation on a special basis.

The proposition of a new solution of the Etruscan question.

An illustration of the relations of the Hispano-Iberian branch of the Dravidians.

The determination of a period of comparative grammar, and, consequently, of human thought, when there were many roots for the same term, and when the root letters were transposable at will, and words were capable of still further multiplication by the addition of prefixes. This period must have been preceded by one still more complicated (such as that of the *Australians*); but was succeeded by a period in comparative grammar, when the roots were selected, and the root letters were fixed. This was attended by a simplicity and economy of thought, and accompanied by a simpler form of writing—that known as the Phœnician alphabet.

Thus we are able to look up to a still earlier epoch of civilisation, common to High Asia, Egypt, and possibly China, and we can trace also the subsequent partial development of the Chinese and Georgian languages, still partially adhering to the old forms of thought; and, further, the great development of the Semitic and Aryan races, which profited by the new instruments of language. We may, therefore, expect further discoveries as to the Chinese, and an insight into a very remote period of civilisation, possibly beyond 4500 or 5000 years ago. The monosyllabic languages are consequently derived from trilateral roots, and are not a stage towards agglutinative and inflected languages, but synchronous with Semitic.

The illustration of a wide-spread knowledge of geography by one race or political body, at a period more remote than has been suspected, and thereby an earlier basis for the common transmission of the forms of civilisation. So far as the west is concerned, we get distinct evidence of a channel for the distribution of knowledge, folk-lore, and mythology, from a centre in India and High Asia. The next is that of the Hispano-Iberians or Dravidians. By acquaintance with these former epochs, we shall be

able to ascertain the real influence of the Aryans, too often exaggerated, from ignorance of the true relations of other races, and from too ready belief of easy fancies in preference to the research of facts.

DISCUSSION.

Dr. CHARNOCK said that the author of the paper endeavoured to connect river-names in Georgia and Circassia with those in Siam. There was, no doubt, a remarkable resemblance between the names for "water" in Circassian and those in the Tataric languages, as the Turkish, Kalmuc, etc.; and also with those in the Tibetan and Chinese. The Chinese name for water was *shwǎy*; in Tibetan it was *tsu*; in Kalmuc *usu* or *sui*; in Turkish *sū*; in Circassian *psoo* or *psce*. In the latter language, the name for "river" (viz., *thsee*) was almost identical with the Turkish *tchāi*. On the other hand, there did not appear to be any connection between the Georgian words for "water" and "river", and those either of the languages in question or of the Burmese or Siamese. The Georgian word for "water" was *skāle*, and for "river" *dināre*. The Siamese word for "water" was *nām*, and for "river" there were, among other words, *menām* (literally, "mother of waters"), *khōng kha*, and *klong*. The words *xōllāthara* and *xōllāthan* were used both for "water" and "stream". The name *Rhodanus*, set down in the table, was pure Celtic, being derived from *rhyd*, "a course".

Mr. LUKE BURKE presumed that he must have wholly misunderstood Mr. Clarke's statements, clear and simple as they seemed to be; for how was it possible to admit that any nation could have hit upon such an extraordinary mode of expressing its thoughts, as that described by Mr. Clarke, as he (Mr. Burke) understood him? If the single thing "water" or "river" had two or three hundred names, what must have been the character of the entire dictionary of the language! Or how did the babies contrive to pick out the appropriate kind of consonants amid all the disguises resulting from interchanges of position, intermingling of vowels, and the addition of prefixes and terminations?

Mr. HYDE CLARKE said that Mr. Burke had illustrated the cause of the change. Language complicated by priests and men of learning no longer served the common purposes. Hence the reaction.

ORDINARY MEETING, APRIL 3RD, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read, and confirmed.

The following New Members were announced: ARCHIBALD HAMILTON, Esq., Feegee Islands; and F. W. RUDLER, Esq., F.G.S., Museum of Practical Geology, Jernyn Street, S.W.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the AUTHOR.—The Book of Nature and the Book of Man, by C. O. Groom-Napier; Tommy Try, by C. O. Groom-Napier; and *Miscellanea Anthropologica*, by C. O. Groom-Napier.

From JAMES BURNS, Esq.—Human Nature; a Record of Zooistic Science and Popular Anthropology. 4 vols.

From the SOCIETY.—Journal of the Society of Arts, to date.

From the EDITOR.—Nature, to date.

The following Report was read:

IV.—REPORT on the RESULTS obtained by the SETTLE CAVE EXPLORATION COMMITTEE out of VICTORIA CAVE in 1870. By W. BOYD DAWKINS, Esq., M.A., F.R.S., F.G.S.

CONTENTS.

1. Introduction.
2. The Romano-Celtic Stratum.
3. Date of Habitation.
4. The Neolithic Horizon.
5. The Grey Clay.
6. Résumé.

§ 1. *Introduction*.—The long grey precipices and plateaux of limestone, which characterise the dales of the West Riding, are worn and fretted into caves of almost every size and form, some being traversed by water; while others, deserted by the streams, have afforded shelter to men and wild animals from the Quaternary period to the present day. The first cave that was ever scientifically explored in the county, the famous hyæna-den of Kirkdale, yielded to Dr. Buckland, in 1819, the materials by which he was led to the proof, that the extinct animals found in Britain had undoubtedly once lived here, and were not borne into their resting-places by a deluge, nor, as was suggested, imported by the Romans for purposes of war or sport. It is not too much to say that this discovery opened up a branch of investigation that has already enabled us to see further into the cloud-land which separates history from geology than we could have hoped for.

In the following report I have given the results of the exploration undertaken by the Settle Cave Committee, by the kind permission of Mr. Stackhouse, the owner of this cave, during the last twelve months. I have not attempted to lay before the Committee the minute details which have been noted each day by Mr. Jackson, the superintendent of the works, by whose care the exact position in the cave of every object of note has been recorded.

The Victoria Cave, near Settle, so called from its discovery on the coronation day of our Queen, stands about half-way up a cliff two hundred feet high. It consists of a series of large chambers and passages, which are now nearly filled to the roof

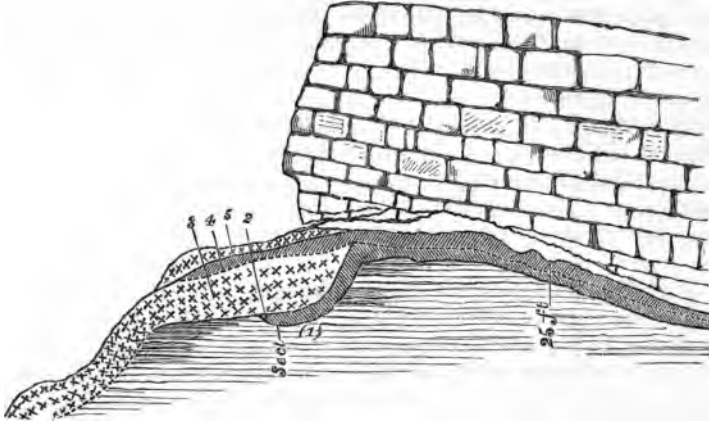


FIG. 1.—Longitudinal Section of Victoria Cave.

with *débris*, and robbed of the massive stalactites with which they were once adorned. It furnished to its enterprising discoverer, Mr. Jackson, from time to time, a remarkable series of ornaments and implements of bronze, iron, and bone, along with

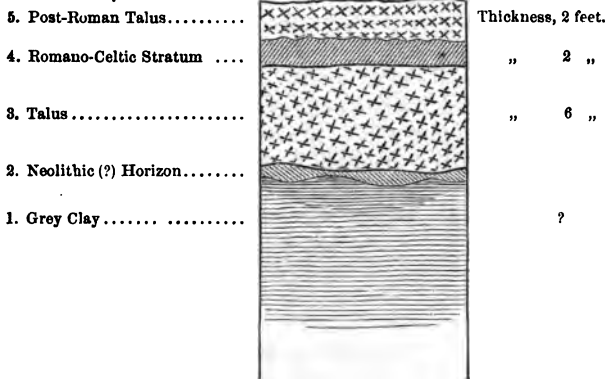


FIG. 2.—Vertical Section at the Entrance to the Victoria Cave.

pottery and broken remains of animals, which have excited considerable attention, and have been figured and described by Mr. Roach Smith and others. Fragments of Samian ware and other Roman pottery, coins of Trajan, Constantine, and Constantius,

proved that the stratum in which they were found was accumulated after the Roman invasion. There were also bronze fibulæ, iron spear-heads, nails, and daggers, bone spoons, spindle-whorls, amber and glass beads, as well as bronze needles, pins, finger-rings, armlets, bracelets, buckles, and studs. The broken bones belong to the Red Deer, Roebuck, Pig, Horse, Celtic Short-Horn, Sheep or Goat, Badger, Fox, and Dog. The whole collection was just of that sort which is very generally found in the neighbourhood of Roman villas and towns, such as Uriconium, which have been sacked; and was doubtless formed while the cave was a place of habitation. As all these things were obtained from the surface, and as the mass of *débris*, that extended to an unknown depth, was undisturbed, the Committee resolved to subject the cave to a thorough examination.

§ 2. *The Romano-Celtic Layer* (No. 4, figs. 1, 2).—Ground was broken on a small plateau (see fig. 1) outside the entrance, which occupied the point where daylight could be seen through chinks in the rocks from the inside of one of the large chambers, and which could not fail to have been chosen by the inhabitants for kindling their fires and cooking their food. On the surface there was a talus, two feet thick, of angular fragments broken away from the cliff above by the action of frost (No. 5, figs. 1, 2). It rested on a dark layer, composed of fragments of bone, more or less burnt, burnt stones, which had formed the fire-places, very many fragments of pottery, and coins of Trajan and Tetricus. Fires had been kindled on the spot, and the broken bones of the animals strewn about were the relics of the feasts. A new entrance into the cave was gradually opened up; and, as the work progressed, the talus died away, and the black layer below rose to the surface, and was continuous with that from which Mr. Jackson had obtained his ornaments and implements. It covered the floor, passing over its inequalities, and lying underneath enormous masses of rock which had subsequently fallen from the roof. Besides spindlewhorls, beads, and curious nondescript articles of bone, it yielded bronze fibulæ of undoubtedly Roman workmanship, a portion of the ivory hilt of a Roman sword, and spiral armlets made of bronze and gilded, which possibly may not be Roman. Some of the ornaments certainly present a style of art which is not Roman, and which is by no means of a contemptible order. One curious circular brooch was composed of two plates of bronze soldered together, the front being very thin, and bearing flamboyant and spiral patterns of admirable design and execution.*

* A similar brooch from the same place is figured by Mr. Ecroyd Smith, in "The Limestone Caves of Craven" ("Trans. Hist. Soc. Lanc. and Chesh.", May 11, 1865).

It is unlike any Roman fibulæ in the composite make and the style of ornament. In the latter particular, it resembles a curious Celtic brooch, No. 492, in the Museum of the Irish Academy. It also recalls to mind a medallion on a Runic casket of silver bronze, figured by Professor Stevens as having been obtained from Northumbrian Britain, as well as a brooch figured by the same authority, which is preserved in the museum at Mainz, and assigned to the third or fourth century. The same ornament occurs also in the illumination of one of the Anglo-Saxon gospels at Stockholm, and in those of the gospels of St. Columba, preserved in Trinity College Library, Dublin. A dragonesque brooch, also, in bronze gilt, adorned with red and green enamel (pl. I, fig. 3), was not of Roman workmanship; as well as a second, made of coloured enamels, in red, blue, yellow, and green (pl. I, fig. 7). The latter is of the same design as two fibulæ in the British Museum—one discovered near Whittington Hill, in Gloucestershire; the other near Malton, in Yorkshire. All three were undoubtedly turned out from the same artistic school, and they may have been made by the same workman. On the whole, it is very likely, as Mr. Franks suggests, that these brooches are of Celtic workmanship made in this country. Their non-Roman type is proved, not merely by their absence from Gaul and Italy, but by their presence in countries where the Roman arms never penetrated. The difficulty of accounting for the same style of ornament in Scandinavia and Northern Germany, may be got over by supposing that they were exported from Britain or Ireland, as that mentioned by Professor Stevens undoubtedly was from Northumbria. The correspondence with the Anglo-Saxon illumination at Stockholm was probably due to the Irish origin of the artist. Ireland must have contributed something to the art as well as to the literature of Scandinavia from the sixth to the tenth centuries, because of her close connection with Denmark. There is nothing at all strange, that the art of the Celts in Ireland should have had some points in common with that of the Romanised Celts of Strathclyde, which, in the sixth century, embraced the whole of Lancashire and a considerable portion of Yorkshire.

Four bronze harp-shaped fibulæ were also furnished by the upper stratum, three of which are of the common Roman types, while the fourth is Roman in form, but in its exquisite ornamentation in enamel probably Celtic (pl. I, fig. 1); its front being composed of a row of small blue diamond-shaped inlays, with the intervening triangles filled up with red. The thicker portion near the hinge is perforated for the receipt of a jewel or of a large mass of enamel. Its delicate workmanship implies a high degree of taste in the fabricator. A split-ring fibula, with a

moveable pin, and a curious brooch, composed of bronze wire twisted into two elegant spirals (pl. I, fig. 8), and a small oblong flat brooch, with the front covered with triangles of blue and green enamel, are those which are worthy of especial notice.

Among the miscellaneous objects in metal are two armlets, composed of twisted gilt bronze, and one fragment of an armlet in solid bronze, with right lines; finger rings—one plain bronze, a second ornamented with enamel (pl. I, fig. 4), and a third ornamented with circles and right lines; a small bronze disc (pl. I, fig. 6), which originally was ornamented with enamel disposed in a heart-shape; two small buckles respectively of bronze and iron; and a small bronze flattened pin, with a bicuspid termination (pl. I, fig. 2). As the two points exactly coincided with the circles on the ornaments of bone, there can be little doubt but that this curious object was employed as a pair of fixed compasses. There were also articles in iron which were too much corroded to allow of a guess at their use.

The coins consisted of two silver of Trajan, and the rest bronze; viz., four of Tetricus senior, one of Tetricus junior, one of Constans, Galienus, and Constantine II, and three barbarous imitations of the time of "The Thirty Tyrants".

The ornaments and implements of bone consist of carefully smoothed and pointed bone pins, and points intended to be fitted to a handle; knife-handles of bone and antler; three spindle-whorls, made of the perforate head of the femur; a bone stud; a perfect spoon-shaped fibula (pl. II, fig. 1), as Mr. Wild terms it; and several fragments, and eight nondescript articles, bearing a close resemblance to the handles of gimlets, which possibly may have been used as studs for fastening together thick clothing. The fact, indeed, that some have the central hole worn by the friction of a thong or fragment of some soft material, coupled with the state of many of their surfaces, renders this guess very likely to be true. In fig. 4, pl. II, the ornament in right lines, which once covered the surface as in fig. 3, pl. II, is very nearly obliterated by friction against some soft body, such as clothing. They are all more or less ornamented with concentric circles and right lines or dots. A reference to the figures 2, 3, 4 (pl. II), will give a better idea of their shape than a mere description. Two perforate discs may have been used as studs. Seven glass beads—five transparent and two of a bluish tint—were also found, and one of jet turned in the lathe. There are also many nondescript articles, consisting of sockets made of antler, and bone rods carefully rounded, and cut bones of uncertain use, as well as two spindle-whorls made of perforated Silurian pebbles. For the identification of the ivory boss of a sword-hilt I am indebted to the kindness of Mr. Franks. In the *débris*

there were many rounded pebbles with marks of fire upon them, which had been probably used as "pot-boilers", and other stones which were probably ancient hearths, and two or three slates, which were grooved in certain places, and which had probably been used for rounding bone pins. There was also, and especially just outside the entrance, a large accumulation of charcoal, mixed with the broken bones of the animals which had been eaten for food. The latter were abundant throughout the superficial layer in the cave.

The fragments of pottery were very abundant, and were all of the types usually found around Roman villas. One specimen of Samian ware, representing an animal in flight, and several other fragments, testify that some of it was imported into this country.

The bones obtained by the Committee are very numerous, and afford fair testimony as to the food of the occupiers of the cave during the time of the accumulation of the upper, or Romano-Celtic stratum (fig. 1, No. 5). The Celtic short-horn (*Bos longifrons*) formed by far the staple animal food. The variety of *Capra oegagrus*, or goat with simple re-curved horns, which is commonly met with in the Yorkshire tumuli, and in the deposits around Roman villas throughout Great Britain, furnished the mutton. A domestic breed of pigs, with small canines, furnished the pork. This bill of fare was varied by the use of horse-flesh. To this list must be added the venison of the roe-deer and the stag, but the remains of these two animals were singularly rare. Two species of the domestic fowl, and a few bones of wild duck and grouse, complete the list of the animals which can with certainty be affirmed to have been eaten by the cave-dwellers. The numerous remains, and some very gigantic, of the badger, those of the fox, wild cat, rabbit, hare, and watervole, have probably been introduced by the carnivora inhabiting the cave from time to time. The unbroken bones of the dog show that it was the attendant of the cave-dwellers, and was not eaten, as the animal certainly was by the rude platycnemid men of Denbighshire. There is nothing in the whole group of the remains which would give a clue to the date; but the very large percentage of domestic over wild animals implies that the cave-dwellers were pastoral rather than a family of hunters. The use of horse-flesh was universal in Roman Britain, and the *Bos longifrons* was not supplanted by the larger breed of the urus type till some time after the departure of the Roman legions.

§ 3. *Date of Habitation.*—There can be no doubt but that this strange collection of objects was formed during the sojourn of a family for some length of time in the cave; we have to account

for the presence of so many articles of luxury in so strange and wild a place. The personal ornaments, and the Samian ware, are such as would have graced the villa of a wealthy Roman, rather than the abode of men who lived by choice in recesses in the rock. In the coins we have a key which explains the difficulty. Some belonged to Trajan and Constantine, others to Tetricus (A.D. 267—273), while others are barbarous imitations of Roman coins, which are assigned by numismatists to the period just about the time of the Roman evacuation of Britain. These objects, therefore, could not have been introduced into the cave before the end of the fourth century, or just that time when the historical record shows us that the province of Roman Britain was suffering from the anarchy consequent on the withdrawal of the Roman troops. In the year 360, the savage Picts and Scots, pent up in the north by the Roman walls, broke in upon the unarmed and rich provincials, and carried fire and sword as far south as London. Their ravages were repeated from time to time, until the Northumbrian Angles finally conquered the Celtic kingdom of Strathclyde. It must nevertheless be admitted that, so long as the Celts of Strathclyde held their ground against the Angles, they would certainly follow the mode of life and the manners and customs handed down to them by their forefathers, the Roman provincials. And, therefore, it is very probable that these objects of Roman culture may have been used in that district which was the Northumbrian border long after they had ceased to be used in the regions conquered by the English. To say the least, there are two extremes between which the date must lie—the fourth and fifth centuries, as shown by the barbaric coins, and the year 756, when Eadberht finally conquered Strathclyde. It cannot be later, because of the presence of Roman, and the absence of all English, cultus. The cave, situated in a lonely spot, and surrounded by the gnarled and tangled growth of stunted yews, oaks, and hazel, which still survive in one or two places in the neighbourhood as samples of the primeval forest, would afford that shelter from an invader of which a native would certainly take advantage. We can hardly doubt that it was used by unfortunate provincials who fled from their homes, with some of their cattle and other property, and were compelled to exchange the luxuries of civilised life for a hard struggle for common necessities. In no other way, can the association of works of art of a very high order with rude and rough instruments of daily use be accounted for. In that respect, therefore, the Victoria Cave affords as true and vivid a picture of the troublous times of the fourth and fifth centuries as the innumerable burned Roman villas and cities; in the one case, you get a place of refuge to which the provincials fled; and in the other, their homes which had been ruthlessly destroyed.

§ 4. *The Neolithic Horizon.*—I must now pass on to the examination of the strata underneath this Romano-Celtic layer, as it may be called. At the entrance, it rested on a talus of angular fragments of limestone (No. 3 in figs. 1 and 2, p. 61), of precisely the same character as that on its surface, six feet in thickness, and running on the one hand into the scree at the bottom of the ravine, and on the other gradually thinning away as it entered the cave, until it disappeared altogether. It rested on a tenacious grey clay (No. 1, figs. 1 and 2), of unknown depth, which fills the greater part of the cave. On the surface of the latter, and underneath a spot where the *débris* was six feet thick, most curious traces of the cave having been occupied by man, long before the advent of the Romans, were discovered. Three rude flint flakes, the broken jaws and bones of the brown bear, red deer, horse, and *Bos longifrons*, as well as charcoal, a bone bead (pl. II, fig. 6), and other nondescript articles, were met with. The remains of the animals prove that the folk who then lived in the cave subsisted mainly by hunting, rather than on herds. A harpoon made of bone (pl. II, fig. 5), and of a form hitherto unknown in Britain, indicated also that they were fishermen. It is little more than three inches long, with a head and two barbs on each side opposite each other. The base presents a mode of securing attachment to the handle which has not been before discovered. Instead of a mere projection to catch the ligatures, there is a well cut barb on either side, that points in a contrary direction to those which form the head. Ample use for such an instrument would be found in Malham Tarn, as well as in the mere now drained called "Attermire", and turned into green fields, which are at the foot of the adjacent ravine. This group of remains, in its rude and savage facies, and in the absence of metals, contrasts strongly with that in the Romano-Celtic stratum above, and must be referred to a people in a low state of civilisation. Inside the cave (see fig. 1), where the intervening talus died away, the two layers coalesced on the surface, and became so intermingled that they could not be distinguished. The jaws and broken bones of a gigantic brown bear, and some of the ruder implements of stone and bone, as well as a stone celt discovered by Mr. Jackson some years ago, probably belong to the lower horizon, which, on the whole, may be assigned with tolerable certainty to the Neolithic age.

The majority of the remains of the brown bear, which occurred either on the surface of the clay inside the cave or embedded in it to a depth of a few feet, and sometimes associated with Romano-Celtic articles, may probably also be assigned to the lower horizon, although the animal was undoubtedly living in Britain during the Romano-Celtic occupation of the cave. On

the surface of the clay inside the caves, the two layers become so confused together that it is impossible to separate the one from the other. In one spot, however, the bear's bones occur underneath a layer of stalagmite two feet in thickness. One of the femora of the brown bear, docked of its articular ends by the action of teeth, is strongly suggestive of the work done by the jaws of the hyæna; but it would be rash to infer the presence of that Quaternary animal in the cave on so slender a basis. The shaft is polished all round to a vitreous lustre by friction against some soft substance such as leather. The same polish I have also observed on the atlas of a bear, and on a broken rib.

§ 5. *The Grey Clay*.—The clay which forms the basis of the plateau, and fills the cave, has, up to the present time, yielded no traces of man or beast. The even stratification, and the lines of calcareous matter, by which it is separated into layers as thin as the leaves of a book, show that it was the deposit of water more or less in a state of rest, and not hurrying violently along as in the water-caves under Ingleborough. It must have been deposited by water flowing from the cave into the ravine, or from the ravine into the cave, both of which hypotheses imply the presence of a barrier in the ravine some hundred feet high, or up to the water level in the cave, or that the ravine itself had been subsequently excavated. It is of unknown depth, a shaft of twenty-five feet deep failing to reach the bottom. The dip of the layer towards the interior of the cave implies that it was introduced from the mouth inwards. The traces of ancient glaciation in the neighbourhood, the large blocks of ice-borne Silurian rock resting on the mountain limestone, and the numerous moraines in the valley of the Ribble, show that anciently Ribblesdale was covered with glaciers. It is very probable that one of these was the barrier which is necessary for the accumulation of this singular bed of clay.

§ 6. *Résumé*.—The Victoria Cave was inhabited, as we have seen, first of all by a barbarous Neolithic family, and, lastly, after a very considerable interval, by Roman provincials, or, possibly, their descendants of Strathclyde, fleeing from the arms of an invader. Other caves in the neighbourhood, such as that of Kelko, near Settle, and that of Dowkerbottom, near Arncliffe, in Wharfedale, explored by Mr. Jackson and Mr. Denny, have afforded similar traces of their having been inhabited by Romano-Celtic refugees. The whole series stands at a level of at least 1200 feet above the sea, and would not have been chosen as habitations by civilised men except under the dire pressure of necessity.

They afford a touching picture of the social condition of Ribblesdale, from the fourth or fifth centuries—possibly as late as the eighth.

The Northumbrian Angles gradually pushed back the Romano-Celtic population westward, until at last King Eadberht accomplished the work, begun certainly before King Ina reigned in 547. The exact time, therefore, when the Romano-Celts were finally conquered, or driven away from Ribblesdale, cannot be ascertained in the absence of any record; for, during the war of more than two hundred years, the tide of conquest must have very frequently ebbed and flowed over that border-land. It is, therefore, impossible to give the precise date of the destruction of the Roman civilisation, which must have been maintained, more or less, by the Celts of Strathclyde.

Several other caves in the district are known to contain Romano-Celtic remains of the same character as those found in the Victoria Cave.

EXPLANATION OF PLATES I AND II.

PLATE I.

- FIG. 1. Bronze fibula inlaid with blue and red enamels.
 2. Flat bronze pin with bicuspid termination, probably used as a pair of fixed compasses for striking circles on some of the bone objects.
 3. Dragonesque bronze brooch, inlaid with red and green enamels.
 4. Bronze ring, inlaid with blue enamel.
 5. Harp-shaped bronze fibula.
 6. Bronze disc, formerly ornamented with enamel.
 7. Dragonesque bronze brooch, inlaid with red, blue, yellow, and green enamels.
 8. Bronze brooch with spiral ornamentation.

PLATE II.

- FIG. 1. Bone fibula ornamented with incised circles.
 2. Bone object, probably a handle, with incised circles, spiral lines, and rows of dots.
 3. Bone object, probably a handle, with incised right lines.
 4. Similar object, with ornamentation resembling that on fig. 3, but nearly obliterated by friction.
 5. Bone Harpoon.
 6. Bone Bead.

The objects figured in Plate I, and in figs. 1 to 4, Plate II, were found in the Romano-Celtic layer in the Victoria Cave, Settle, Yorkshire; whilst figs. 5 and 6, Plate II, were obtained from a lower stratum, probably of Neolithic age. All are figured of natural size.

DISCUSSION.

Mr. W. MORRISON, M.P., observed that Roman remains had been found near Settle. The land was so rich, letting at £7 the acre, that the locality would naturally be occupied by the Roman settlers; and the discovery of the coins of Tetricus suggested, as Mr. Dawkins pointed out, that the Romano-Celtic articles found in the cave belonged to some of the half-civilised inhabitants left after the withdrawal of the

Roman garrison, who, as history tells us, were unable to defend themselves from the incursions of the northern barbarians, and may have taken refuge in the cave. In 1745, a little boy, six years old, had been sent there with the family plate, when Prince Charlie's army advanced into England, it being a common belief at the time that the Highlanders lived on children. The femur of the bear was polished in the centre, and was rough at each end. It had been suggested to the speaker by Mr. E. T. Stevens, the curator of the Blackmore Museum, that it might have been used for rendering skins supple, and thus suitable for clothing. Two forked poles might have been fixed in the ground, and the bone firmly lashed to them, and the skin dragged backwards and forwards over it, as is done by some tribes of American Indians.

Mr. CHARLESWORTH inquired as to the nature of the bed of clay in the cavern, and whether it had been found to contain any land or fresh-water shells.

Mr. DENDY and the CHAIRMAN also joined in the discussion, and Mr. BOYD DAWKINS briefly replied.

The following paper was then read :

V.—*The BUILDERS of the MEGALITHIC MONUMENTS of BRITAIN.*

By A. L. LEWIS, Esq., M.A.I.

[*Abstract.*]

DIVIDING the inhabitants of Britain into three leading groups, the Kymric—long-headed, dark-haired and light-eyed; the Iberian, dark-eyed and dark-haired; and the Teutonic, round-headed, light-haired, and light-eyed—the author controverted the idea entertained by many, that the Iberians were the aboriginal race, and that they exclusively were the builders of the megalithic monuments which are found in different parts of Britain. He attributed those monuments to both the Kymric and Iberian divisions of the great Celtic race; and supported his views by a careful consideration of the statistics of the physical characteristics of the inhabitants of Great Britain collected by Dr. Beddoe, comparing the distribution of the different types of inhabitants with the distribution of the megalithic monuments throughout the country; and concluded with an appeal to all interested in the science to collect further statistics.

DISCUSSION.

Mr. LUKE BURKE maintained that the only mode in which reliable results were to be obtained in archæology was that by which geology had achieved its success. We must discard all hypotheses, whether historic or otherwise, and treat monuments, languages, myths, and other traditions, just as the geologists treat rocks and fossils, endeavouring, by their careful study and comparison, to evolve from them a stratification of epochs and formations, and thus gradually compel

them to reveal their true import and relations. He could not but regret, therefore, when he saw labours expended in researches based on historical or other conjectural data, as in the case of the paper just read.

MR. BOYD DAWKINS called attention to the impossibility, in the present state of our knowledge, of assigning any prehistoric tumuli or megalithic structures to any one race now dwelling in Europe. At the present time there are certainly two distinct peoples in Great Britain—Teutons and Celts; and it is almost certain that the Iberians are also represented by the dark-haired inhabitants of Wales. It is very probable that the last were conquered by the Celts, exactly as the Celts were conquered by the Teutons; but it is very improbable that they were the first and only prehistoric race that had possession of our land after the palæolithic age. Till we know all the races it will be impossible to decide who the builders of any particular monuments may have been, by an appeal either to the crania, or to the style of art; because some of the races of which the very names have perished, may have been long-headed, or short-headed, or have constructed tombs and dwellings and temples precisely after the same fashion as the three races which are known. To invoke the Druids, with Mr. Lewis, is to import into the discussion an element of error, because there is no evidence that they ever existed as a dominant priestly caste either in Gaul or in Britain, and because the views of the antiquarian, by which nearly all unknown monuments are termed Druidic, are obviously unsupported by fact.

DR. CHARNOCK thought a better title for the paper would have been so-called "Celtic Monuments". A megalith was a great stone, a *menhir*—literally, "long stone". The author of the paper seemed to include under the term "megalith" all the stone monuments in Britain, as the cromlechs, cistvaen, etc. The term "builders" could not properly be applied to the putters up of a *menhir*. It was not probable that the stone monuments in question had been erected by those who named them; otherwise, they would not have variously designated them cromlech ("crooked stone"), dolmen ("table-stone"), cistvaen ("stone chest"). Mr. Lewis had spoken of the Iberian element in Britain. There was evidence of Spaniards having settled in Galway, but no proof of any Iberian element in England.

MR. HYDE CLARKE observed that the builders of the monuments of Britain must be the builders of the monuments elsewhere. The only ethnological area that is coincident with these monuments is that of the Caucaso-Tibetans. Within that ancient area are now found the megalithic building tribe of the Khasias. In the absence of better evidence, the only feasible solution is, that such tribes accompanied the Caucaso-Tibetans, and that as the Caucaso-Tibetans are represented *in situ* in the Caucasus, so are the stone-builders represented *in situ* by the Khasias.

MR. DENDY regretted that, in his illustration of the formation of megalithic monuments, the author had laid so much stress on the races that, in comparatively recent ages, had inhabited the regions in which these ancient relics have been found. Emigrations and immigrations

have been so constant, during and after the era of their construction, that it is vain to expect an elucidation by modern ethnology. He believed that a very deep insight into history and tradition was essential ere the archæologist could form any rational conclusions on the subject. The frequent resemblance of these monuments throughout the world indicated a universality of design, natural to a variety of scattered peoples, that may once have been associated. In our own country, the Druids, and other ancient Britons, are, of course, prominent in the history of cairns and dolmens; yet archæologists, from Geoffery of Monmouth to Colt Hoare, have left both the era of formation and the material of construction still to be demonstrated.

Mr. WAKE, Col. LANE FOX, and the PRESIDENT, also joined in the discussion.

Mr. LEWIS, in reply, said that he had to thank the members for the kindness with which they had received a paper which dealt with the subject in a new and, perhaps, at first sight, an unsatisfactory manner. He had taken, however, as the President had pointed out, only one point out of many from which to view a very large subject, and his paper was moreover intended to be rather destructive than constructive. With respect to the Druids, he differed from Mr. Boyd Dawkins, and thought there was great reason to believe that many of the monuments under consideration had been constructed by the Celts under the influence of the Druids, much as the cathedrals, etc., of Europe had since been constructed under the influence of the Romish clergy: this, however, was a branch of the subject which he had treated more fully in a former paper. He did not think that the men of the palæolithic period had any connection either with the megalithic monuments or the present inhabitants of Britain. Dr. Charnock did not like the term Iberian, which, he was aware, was open to objection, and was willing to abandon in favour of any better one that might be suggested; in the meantime he had, however, defined what he meant by an Iberian, and he thought the mere question of name did not materially affect the conclusions arrived at. In reply to some observations of the President, he might mention that the curiously inscribed stones of Gavv Inis in the Morbihan, some of which were of large size, were, it was said by local archæologists of some eminence, brought from a distance, and must have been floated over to the island on rafts. Dr. Charnock had also remarked that the stones at Locmariaker seemed to him to have come from some distance; earth brought from a considerable distance was also often found in tumuli. He fully agreed with Mr. Dendy, that archæology and history should be studied together, and would be obliged to Mr. Dendy if he would refer him to any authentic history which had any bearing upon the question. He was not prepared to go so far as Mr. Hyde Clarke, and to say that all the monuments of this description must have been built by the same people, but only that a common influence of some kind (which might be Phœnician) must have extended throughout the area in which they were found. Mr. Wake had remarked that they were only found in countries where a long-headed race had been, and that the Celts being broad-headed,

they must have been built by a pre-Celtic race. There were, however, broad-headed and long-headed Celts (so-called); and it was certain that any pre-Celtic European race that might have existed was without the knowledge of metal tools, while there was much reason to believe that some of the monuments were constructed by races which had that knowledge.

The DIRECTOR then read a Notice, by Dr. J. Barnard Davis, F.R.S., of the Recent Anthropological Memoirs of Professor Calori, Corresponding Member of the Anthropological Institute, which will be found in the miscellaneous portion of this number of the *Journal*.

APRIL 17TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair*.

THE minutes of the last meeting were read and confirmed.

The following new members were announced: THOMAS DAVY, Esq., 24, Grove-end Road, St. John's Wood, N.W.; Rev. MARSDEN GIBSON, Spital Square, E.C.; ADAM MURRAY, Esq., 4, Westbourne Crescent, Hyde Park, W.; and CHARLES ROOKE, Esq., F.G.S., Belle Vue Cottage, Scarborough.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the SURGEON-GENERAL, U.S.—Report on Barracks and Hospitals, with Descriptions of Military Posts. Circular No. 4, 1870.

From J. W. JACKSON, Esq.—Researches on the Dynamics of Vital Force. By Dr. Reichenbach. Translated by Dr. Ashburner.

From JAMES BURNS, Esq.—Human Nature: a Record of Zooistic Science and Popular Anthropology. 4 vols.

From the SOCIETY.—Proceedings of the Royal Geographical Society.

From the SOCIETY.—Proceedings of the Asiatic Society of Bengal for December 1870 and January 1871.

From the VIENNA ACADEMY.—Jahrbuch der Kaiserlich-königlich geologischen Reichsanstalt, 1870; and Verhandlungen der k.-k. geolog. Reichsanstalt, 1870.

From the AUTHOR.—Die Menschenfresserei und das Menschenopfer. Von H. Schaffhausen.

From the EDITOR.—Nature, to date.

Mr. F. G. H. PRICE exhibited an antler of the Red Deer (*Cervus elaphus*), which had been used as a pick, and was found in gravel near Ipswich.

Mr. CHARLESWORTH exhibited an obsidian flake and core from Mexico; and an Aztec mirror in iron pyrites.

The following paper was read :

VI.—*The MENTAL CHARACTERISTICS of PRIMITIVE MAN, as exemplified by the AUSTRALIAN ABORIGINES.* By C. STANILAND WAKE, Esq., Dir. A.I.

IN a former paper, I endeavoured to trace the most prominent physical characters of the aborigines of Australia. In the present one, I intend to refer to the more striking intellectual and moral characteristics of this peculiar race. My object in thus doing is a double one. I wish, primarily, to establish what are the real mental phenomena exhibited by the natives of Australia; and secondarily, to show approximately the condition in which man generally must have existed in the primeval ages, not necessarily when he first appeared on the earth, but so soon as the struggle for existence between man and man commenced, and the selfish instincts of humanity had had time to become fully developed.

The mental characteristics naturally divide themselves into those intellectual and those moral. To speak, however, of intellectual phenomena in relation to the Australian aborigines is somewhat of a misnomer. This race presents, in fact, hardly any of what are usually understood as the phenomena of intellect. Nor could it be otherwise with savages who, almost without clothing or ornaments, with few implements or manufactures, and with very inferior habitations and means of water-locomotion, have no aim in life but the continuance of their existence and the gratification of their passions, with the least possible trouble to themselves. When, therefore, I speak of intellectuality, I refer to that simple activity of the mind which is necessary to the performance of the actions required for the maintenance of life, and for the display of those simple phenomena, almost instinctive, nevertheless, in their nature, which may be supposed to result from the reflective exercise of the human mind on external objects, as distinguished from the merely instinctive thought of the animal. What I thus describe as the intellectual phenomena of the Australian aborigines are few, and have relation only to the exigencies of social life. The ingenuity displayed by them in overcoming the many difficulties they have to contend against in dealing with the hard conditions of nature is often, no doubt, very great. Their appliances are, however, often temporary, although not always so, as may be seen from their use of nets for fishing and bird-catching; these being well made, as are generally also their baskets, bags, and mats. Great

ingenuity is, moreover, undoubtedly shown in the native weapons; one of which—the boomerang—would appear to be unknown, in principle at least, to any other race. It must be noted, however, that we do not know the progressive stages through which the boomerang has arrived at its present perfection, and that its origin, like that of fire-making, may have been in the accidental recognition of an operation of nature.

The skill of the aborigines is well displayed in the well-sinking, so many examples of which Sir George Grey found in North-Western Australia, near the Hutt River. Mr. Eyre also met with similar constructions in his journey from Adelaide to King George's Sound. Of those near Smoky Bay he says: "These singular wells, although sunk through a loose sand to a depth of fourteen or fifteen feet, were only about two feet in diameter at the bore, quite circular, carried straight down, and the work beautifully executed." The natives could reach the water only by means of a pole placed against the side of the well, and its use required the greatest care lest the sand should fall in.

In some respects, the drawings and paintings which have been found in various parts of Australia are the most interesting phenomena presented by the native intellect. The cave paintings discovered by Sir George Grey are too well known to require description here; and the same may be said of the drawings on Clark's Island, near Cape Flinders, seen by Mr. Cunningham.

Mr. Collins long ago stated that most of the implements used by the natives of Port Jackson "are ornamented with rude carved work, effected with a piece of broken shell." He adds that on the rocks he had seen "various figures of fish, clubs, swords, animals, and even branches of trees, not contemptibly represented." It will not be pretended that any of the native drawings furnish evidence of great artistic skill. They may occasionally exhibit a certain amount of rude vigour, but as a rule they may be classed with the productions of children. As to most of them, moreover, the natives assert that they know nothing as to their origin; and this we may well believe, when, as Mr. Oldfield states, they cannot distinguish the picture of a man from that of any other object, unless all the lesser parts, such as the head, etc., are much exaggerated.

The activity of the Australian intellect may be supposed by some persons to be shown in the system of marriage restrictions, which appears to be in operation, more or less, throughout nearly the whole continent. These restrictions, or the rules which enforce them, must not be viewed, however, as having been arbitrarily formed for some special and foreseen purpose. They have, undoubtedly, grown up out of an earlier social phase. The same

must be said of language. This is not the creation of intellect; and, therefore, the complexity of its structure, the richness of its grammatical forms, or the copiousness of its vocabulary, affords no proof of great intellect, although they show considerable mental activity.

The aborigines have no system of government, and no chief, in the usual acceptation of that word. Admiral Wilkes, of the United States Exploring Expedition, in referring to this point, states that the universal reprobation of their associates, which follows a breach of ancient customs, has a strong tendency to preserve a strict observance of them. The same thing is said by all other writers who have referred to the subject, and nothing more conclusively shows the low mental position occupied by the Australian aborigines, when taken in connection with the barbarity or absurdity of most of the customs thus enforced.

It is true that Sir Thomas Mitchell says of the aborigines: "They have been described as the lowest in the scale of humanity, yet I found those who accompanied me superior in penetration and judgment to the white men composing my party. Their means of subsistence and their habits are both extremely simple; but they are adjusted with admirable fitness to the few resources afforded by such a country in a wild state." This testimony is doubtless true; but the facts it proves are quite consistent with the low position I have assigned to the Australian aborigines, a position which their moral defects, as detailed by Sir Thomas Mitchell himself, and by other writers, requires for them.

Moral Character.—Collins said of the natives of New South Wales that they were great thieves, even stealing objects of which they could not know the use; that they were "adepts in the arts of evasion and lying"; that they were revengeful, jealous, courageous, and cunning; that they displayed great talent for mimicry; and that they were susceptible, notwithstanding their other defects, of friendship, and capable of sorrow, although this was with them a very transient emotion. On the other hand, Mr. Eyre says of the natives of South Australia with whom he came into contact, that they are frank, open, and confiding, and that they are easily made friends, and then associate with strangers with perfect freedom and fearlessness. It must not be thought, however, that Mr. Eyre found the natives of South Australia to be without social failings. The very persons whom he describes as being so affectionate with each other and with their children are just the reverse with their wives.

We shall see hereafter how heartless is the treatment of the native women; and this conduct in relation to their own people renders less improbable the statement of Sir Thomas Mitchell,

that when he reached the Goulbourn River (Port Phillip) he was at length convinced "that no kindness had the slightest effect in altering the disposition and savage desire of these wild men to kill white strangers, on their first coming among them." This undoubtedly betokens a very low condition of the moral nature, which is no less shown by reference to many of the native customs. Thus, Sir George Grey says that in practice the aborigines reject "all idea of the equality of persons or classes. The whole tendency of their superstitions and traditional regulations, is to produce the effect of depriving certain classes of benefits which are enjoyed by others." The favoured classes are the old or the strong, who obtain their advantages at the expense of the female sex, the young, and the weak, who are condemned to "a hopeless state of degradation".

We see in these laws and customs, which underlie the very constitution of Australian aboriginal society, the operation of that "unmitigated selfishness" which Mr. Gideon Lang declared to be the disposition of at least all the male natives. The only inference that can be made from this fact, and from certain other phenomena, mental and social, to be shortly mentioned, is that moral ideas have in the case of the Australian aborigines remained almost wholly undeveloped. This is shown by nothing better than the slight regard paid among them to female chastity. Thus, Collins said of the natives of New South Wales that chastity was not a virtue on which the women prided themselves, although they appeared sometimes to learn to be ashamed of its infraction while in the presence of white people. The testimony of Mr. Eyre is still stronger, if possible, to the same effect. He says that no such virtue as chastity appears to be recognised, women prostituting themselves freely throughout their whole lives. Mr. Eyre adds other particulars in a Latin note. Thus, he says that among many tribes it is customary for the youth of both sexes to lie indiscriminately together, this first taking place when the boys are thirteen or fourteen, and the girls ten years of age.

In the presence of such an entire want of the idea of personal purity as these facts reveal—facts which agree perfectly with the statements made by travellers in other parts of the Australian continent of the slight value set by husbands on the chastity of their wives, and with the general character ascribed, as we shall see, to the native women—there can be no wonder that infanticide and abortion are very common.

The want of natural affection exhibited in these customs is shown in other ways. Thus, Mr. Eyre asserts that, when ill, a wife is sometimes left to die, if the tribe is removing to another locality, and "parents are treated in the same manner when

helpless and infirm." It should be added, however, on the testimony of Mr. Oldfield, that among the Western Australians great care is taken of the blind, deaf, dumb, halt, and withered, by their comrades. Wilkes tells us that, so far as his observation went, the women appeared to care little for their children. This may, however, have been defective observation, or, at all events, the conduct he noticed is consistent with the existence of the feeling contrary to that suggested by Admiral Wilkes.

In the West, also, the mother would seem to have a real affection for her offspring, although there, too, it sometimes has curious accompaniments. Mr. Oldfield, when speaking of cannibalism among the natives generally, says that a man will, in case of extremity, kill his child to satisfy his hunger. In these cases, "the mother is not permitted to make loud lamentation, else she is beaten; she may, however, express her grief by uttering low, stifled moans, but how great soever her sorrow for the loss of her child may be, it becomes somewhat assuaged when the head of the victim, the mother's legal perquisite in all such cases, is thrown to her, and this she proceeds to eat, sobbing the while." It is only fair to record, as a set-off against the facts above stated, that Mr. Eyre indignantly protests against those who represent the Australian native as being entirely wanting in natural affection.

How are we to reconcile the apparent inconsistency between the display of affectionate emotion recorded by Mr. Eyre, and the treatment of the native women? In South Australia, the women are frequently much ill-treated by their husbands or friends, being "beaten about the head, with waddies, in the most dreadful manner, or speared in the limbs for the most trivial offences." The woman is, in fact, the slave of the man. Collins makes this remark of the natives of New South Wales; and Wilkes confirms him in his statement of the cruel treatment their women receive, the waddy being "applied to their heads in a most unmerciful manner." Woman appears, in fact, to be treated as a dog, and no one will take her part, even though she really be innocent of that for which she is punished. A man, adds Sir George Grey, may even beat the wife of another without retaliation on himself, but his own wife may expect in her turn to receive a beating at the hands of the husband of the woman first maltreated. Mr. Oldfield says "that it is remarkable" as showing the low estimation in which the female is held by all the Australian aborigines, "that none of the dreaded In-gnas are of that sex, and from this and other considerations may infer that the New Hollanders do not believe that the

possess souls."

cannot be surprised that, considering their unenviable

position, and the fact that the old men usually secure them for themselves, the younger females are much given to intrigue, and they are quite willing to run the risk of a spear through the calf of the leg, or even a more severe punishment, at the hand of their husbands. The character of the native woman, however, does not appear to be such as to secure her much sympathy. Sir George Grey states that "the ferocity of the women, when they are excited, exceeds that of the men; they deal dreadful blows at one another with their long sticks; and if ever the husband is about to spear or beat one of his wives, the others are certain to set on her, and treat her with great inhumanity." The old wives are extremely jealous of the young ones. The women, moreover, are not without influence in the tribe. The old ones often incite the men to acts of revenge; and when once an old woman begins a chanting address of this kind, "nothing but complete exhaustion induces her to stop, and the instant she pauses another takes up the burden of the song. The effect some of them produce upon the assembled men is very great; in fact, these addresses of the old women are the cause of most of the disturbances which take place."

The various facts hitherto detailed are explainable only on the assumption that the natives of Australia are, in all questions of morality, and in all matters connected with the emotional nature, mere children. There may occasionally be great display of affection, and this, as in the case of women who have lost their young children, may sometimes last for a considerable period, but, however intense the emotion, it is not, as a rule, of long continuance. The very affection for children, which is the chief redeeming feature in the character of the Australian native, is carried so far as to amount to a weakness. The children are seldom, if ever, corrected, and the boys soon become utterly regardless of their mothers, and often tyrannise over them. It is, however, by the nature of their general ideas of morality that the true condition of this people must be determined, and, judged of by this test, such condition must be of a very childish character. They have, undoubtedly, the simple notion of a distinction between right and wrong; but we shall not be incorrect if we affirm that it is founded altogether on the rights of property. This is evident from the ideas entertained as to theft. To take that which belongs to another native is, no doubt, considered a great crime, for it interferes with the rights of property. To steal from a white man is, however, very different, and, with few exceptions, the tribes met with throughout the whole continent appear to be dexterous thieves.

That the native notions of morality are founded on the rights of property is shown by other considerations. Thus, the natives

see nothing morally wrong in adultery, as is shown by their readiness to lend their wives to their friends, and by the custom of women married to old men having young lovers, a practice which Mr. Oldfield thinks is winked at by their husbands. The men can, however, be very jealous, and the recognised punishment for the stealing or running-off with another man's wife is either spearing in the calf of the leg, or standing to receive the spears of the offended tribe with only a shield as a safeguard, which, however, if the culprit be dexterous, will protect him from injury. The woman is dealt with at the discretion of her husband, and sometimes, says Oldfield, "she is delivered up to the tender mercies of the other women of the tribe, who, seizing and throwing her down, sit upon her body, which they scarify in a dreadful manner with sharp flints." Thus, the property interfered with is generally more severely punished than the man who appropriates it.

There seems, indeed, to be an almost total absence from the mind of the Australian native of any idea of abstract morality, or even true instinct of moral propriety. The immaturity of nature which this fact shows is revealed also by the superstitious notions with which the native mind is saturated. It is not necessary for me to enter into particulars of the many curious superstitions which show the low moral condition of the Australian aborigines. Many of these are connected with the belief in the existence of spirits, such a belief, which is evidence of some notion of a future life, being universal. The idea of a future life associated with it is, however, very indefinite, and has had a negative origin. The savage cannot form any idea of death, and, therefore, he supposes the dead still to exist, and he sees their activity in various operations of nature which affect him more or less injuriously. It is very improbable, however, that the Australian native ever really thinks on the subject; his actions in relation to which are governed by mere traditional instinct. His notions as to the existence of a Great Being have arisen, no doubt, from the belief in the In-gnas, or shades of the dead. Dr. Lang is certainly right when, in opposition to Strzelecki, he affirmed that the Australian aborigines do not recognise a God. They have nothing whatever, says Dr. Lang, of the character of religion, nor is there any trace among them of idolatry.

The opinion that the Australian aborigines are still but children in their general mental development is quite consistent with certain other phenomena, which may be shortly referred to. Thus Wilkes says of the natives of New South Wales: "They are not great talkers, but are usually silent and reserved; they are generally well disposed, but dislike to be much spoken to, particularly in a tone of raillery." Wilkes adds, "their great

timidity has caused a false estimate to be put upon their character, by ascribing to it great ferocity." The furious onsets made by strange natives on parties of white men, "arise from the panic with which they are seized depriving them temporarily of reason." Like children, in fact, they are afraid of the ghosts which they conjure up, although in the present case those which the Australian fears take the substantial form of white Europeans. The seemingly ferocious conduct of the natives may be explained partly by reference to timidity and partly by their belief that the white man has returned to claim his property, or at least that he wishes to appropriate that of the tribe. This belief is probably the real explanation of the unfriendly opposition usually met with by travellers in the interior, pleasant exceptions to the rule being furnished by the natives who assisted Leichhardt near Port Essington, and by those who supplied Mr. Eyre with water during his persevering struggle to reach King George's Sound, round the head of the Great Bight. The deceitful conduct of which so many travellers complain, and which led Commander Stokes to say of the Australian aborigines that, "like all savages, they are treacherous" (Leichhardt, however, limiting the assertion to the coast blacks), is often due to another cause. Stokes does, indeed, say of the natives of the north-west coast that they are generally "suspicious rather than treacherous." The latter quality, however, results from the former, and it is suspicion, doubtless, which sometimes leads to actions which appear otherwise to be inexplicable. The custom found among all the tribes, apparently, of concealing spears in the grass and drawing them along the ground with the toes, is evidence of the combination in the native character of both cunning and suspicion, at least, if not of treacherous feeling. I cannot help thinking, nevertheless, that the difference in the reception experienced by various travellers at the hands of the natives has in great measure a *personal* origin. The savage, as the child, instinctively likes or dislikes a stranger, and hence when one person may be violently repulsed another will be welcomed by him, until his latent suspicions are brought into active operation through some ill-judged act of his visitor.

One other characteristic of the Australian aborigines deserves to be mentioned: it is the power which grimaces have over them. Captain King says that friendly terms were renewed with the Cape Flinders tribe chiefly by means of grimaces and ridiculous gestures, which, he adds, are "always acceptable to the natives of this part of the world." Com. Stokes made the same discovery when exploring Clarence Strait, where two of his companions escaped spearing only by dancing and making grimaces for a considerable period, until the attention of their ene-

mies was diverted elsewhere. A like mental phase is exhibited in the power of mimicry which the natives possess in a high degree. I may remark that these characteristics are consistent with the talkative and merry nature noticed by many travellers, especially among the young natives, and with the universal love of what they know as music, singing, and dancing.

To sum up what has gone before, it is evident that the aborigines of Australia, as compared with the races who have made further progress in mental culture, are yet in the condition of children. Among all the tribes, whether the more hostile ones of the east, or those which in the west appear to give evidence of a milder disposition, there is the same imperfect development of moral ideas. In fact, none of them have any notion of what we call morality, beyond the simple one of right and wrong arising out of questions of property. With this moral imperfection, however, the Australian natives exhibit a degree of mental activity which, at first sight, may be thought inconsistent with the childish position here assigned to them. It is evident, however, that this activity results from the position in which the Australian is placed. Extremely indolent when food is plentiful, when it is scarce the greatest exertions can be made for its acquirement, and the repeated exercise of the mind on the means of accomplishing the all-important end of obtaining food has led to a development of the lower intellectual faculties, somewhat disproportionate to the moral ideas with which they are associated. Probably, it is a result of the undue mental activity thus shown that idiocy is common among the natives when old age is reached, although not among the young. Another consequence is seen in the proud independence exhibited among many of the tribes, which often gives them an air of haughtiness and insolence.

In view of the facts I have stated, how is it possible to assert that this race has degenerated from a higher state of civilisation? And yet this is the position taken by some writers. So far, however, as I can judge, the phenomena referred to in the present paper are utterly inconsistent with the degradation supposed. The negative evidence furnished by the absence of many things possessed by other barbarous peoples, showing such a deficiency in the conveniences of social life, seems to me to be a sufficient refutation of such an opinion. That the Australian aborigines do possess certain points of affinity with other races is unquestionable, and I think it is extremely probable that the inquiries of Dr. Bleek point in a right direction. They do not, however, prove that the Australians have fallen from a higher state of civilisation, or that, as a race, they have been derived either from Southern India or from Northern Asia. The facts

which appear to support such a notion as this are explainable on the assumption, which may, I believe, be supported by physical data, that the Australians are more or less a mixed people. Probably long before the establishment of the Chinese Empire there was a great movement of Asiatic peoples, the so-called Scythic element, which spread throughout the Indian peninsula, and reached Southern Africa on the one side of the Indian Ocean and Australia on the other. Nowhere, except perhaps in the Indo-Chinese peninsula, was this Scythic element so powerful as to destroy or to absorb the native element, and in Australia especially its influence was comparatively weak, since it reached that continent already diluted by contact with the so-called Malay peoples.

It is very questionable, moreover, whether the Scythic element exhibited much superiority in mental culture over the native one by which it has been absorbed. It certainly has not sufficed to raise the Australian aborigines from their primitive barbarism, the phenomena presented by which are quite inconsistent with the idea that they have fallen from a higher state of civilisation. A race, whatever degradation it may undergo, could never lose all trace in its social condition of that which it once possessed, and sink back to the exact state in which it must have been when it first emerged from a condition of almost absolute barbarity. This, morally at least, is the position of the aborigines of Australia; and the only conclusion, therefore, I can draw is, that they are something more than the race children of the present era—that, in fact, they represent the childhood of humanity itself, revealing to us the condition of mankind, if not in primeval times, yet when the original potentialities of man's being had been but slightly developed by the struggle for existence, and when, by the separation of families, opposing interests had been created, with their endless consequences of violence and bloodshed. This could not have been long after man's first appearance on the earth. Mr. Darwin seems to refer the origin of the several human races by sexual selection to the time when their progenitors had "only doubtfully attained the rank of manhood." "Man's ancestors would then," says Darwin, "have been governed more by their instincts, and even less by their reason, than are savages at the present day. They would not at that period have partially lost one of the strongest of all instincts, common to all the lower animals, namely, the love of their young offspring; and consequently they would not have practised infanticide. There would have been no artificial scarcity of women, and polyandry would not have been followed; there would have been no early betrothals; women would not have been valued as mere slaves." The practices thus condemned show themselves only as the intel-

lectual faculties are developed; and as they agree well with the condition of the Australian aborigines, we may suppose that they represent one of the earliest stages in the progress of mankind towards that high culture which is exhibited by the European.

The following notes were taken as read:

VII.—NOTES on a COMPARATIVE TABLE of AUSTRALIAN LANGUAGES. By the REV. GEORGE TAPLIN, Superintendent of the Native Industrial Settlement at Port Macleay, Lake Alexandrina, South Australia.

THIS table has been constructed so as to correspond as nearly as possible with the comparative table of Polynesian and Melanesian dialects found in Dr. George Turner's work, "Nineteen Years in Polynesia."

The sounds of the letters are adopted from the orthography recommended by the Royal Geographical Society. The consonants are to be sounded as in English, except that *g* is invariably hard. The vowels are to be sounded, for the most part, as in the following English words: *a* as in *father*; *e* as in *there, they*; *ei* has the sound of long *i*; *i* as in *fatigue*; *o* as in *old*; *ow* as in *cow, now*; *u* as in *rude*; and *oo* as in *moon*. *Y* is sometimes used for long *i*, as in *pyabed*; *ng* at the beginning of words is a common nasal sound in all Australian languages; *dl* and *ny* are also found at the beginning of words; *y* at the beginning of a word or syllable has a consonantal sound, as *yarra, goyarra*.

As this table has been compiled from various sources, I have endeavoured to get as much uniformity of sound as possible, and have altered the spelling for this purpose, where I felt warranted in doing so.

A singular uniformity will be observed in the words for *hand, eye, tongue, and blood*—especially the first three; and in a less degree for the word *mouth*. There is also a great uniformity in the word for *seeing*.

The personal pronouns exhibit great uniformity, with two remarkable exceptions; viz., the Port Phillip and Wimmera dialects.

Of course, I cannot speak positively of all the dialects; but those I have examined have led me to conceive it probable that in Australian languages the verb has only a participial form; for instance, that *tangulun ap* means *I standing*, and not the indicative *I stand*; that *mempin atte* means *by me striking*, and not *I strike*; and that *nakkir ap* means *I having seen*, and not *I saw*. I know this is the case with the language of the Narrinyeri tribes, because they are continually using the present tense as an adjective. The word *memp* means *strike* (im-

perative); but it is not *ngape memp*=*I strike*, but *mempin ap*=*I striking*.

I think it probable that the aboriginal languages may be divided into two classes. The aborigines evidently belong to two races—one like the Eastern Polynesians, and the other like the Western, or Melanesians. One race has straight hair and a lighter complexion; the other has curly hair, and is darker. And perhaps the characteristic of the languages of the former race may be monosyllabic pronouns, and of the latter race polysyllabic pronouns. This would correspond with the distinction which exists between the same parts of speech in Polynesia and Melanesia.

It will be observed that there are many omissions in some of the lists of words. This arises from the persons who collected them not having ascertained the words for those omitted. And I may remark that the omissions of writers of vocabularies are often very unaccountable. Words of the commonest kind are omitted. For instance, Meyer, in his vocabulary of the Encounter Bay dialect of the Narrinyeri, has omitted the word for “small”, *muralappi*, and yet he evidently understood the language well.

As it may be desirable to give a sketch of the grammar of an aboriginal language, I proceed to append some account of the grammar of the language of the Narrinyeri.

1. This language is called *Yarildewallin*.
2. There are no articles in this tongue.
3. Nouns are declined in the singular, dual, and plural numbers. There are six cases of nouns. The following is the declension of the noun *korni*, “a man”.

SINGULAR.

Nom.	<i>Korni</i> ,	a man.
Gen.	<i>Kornald</i> ,	of a man.
Da.	<i>Kornangk</i> ,	to a man.
Ac.	<i>Korn</i> ,	a man.
Voc.	<i>Korninda</i> ,	O man.
Ab.	<i>Kornil</i> ,	by a man.
Exative.	<i>Kornanmant</i> ,	from a man.
Ergative.	<i>Kornanyir</i> or <i>Kornald</i> ,	with a man.

DUAL.

Nom.	<i>Kornengk</i> ,	two men.
Gen.	<i>Kornengal</i> ,	of two men.
Da.	<i>Kornungengun</i> ,	to two men.
Ac.	<i>Kornengk</i> ,	two men.
Voc.	<i>Kornula</i> ,	O two men.
Ab.	<i>Kornenggul</i> ,	by two men.
Exative.	<i>Kornungengun</i> ,	from two men.
Ergative.	<i>Kornungengun</i> ,	with two men.

PLURAL.

Nom.	<i>Kornar</i> ,	men.
Gen.	<i>Kornan</i> ,	of men.

Da.	<i>Kornungar,</i>	to men.
Ac.	<i>Kornar,</i>	men.
Voc.	<i>Kornuna,</i>	O men.
Ab.	<i>Kornar,</i>	by men.
Exative.	<i>Kornungar,</i>	from men.
Ergative.	<i>Kornan,</i>	with men.

4. Pronouns are declined in the singular, dual, and plural. The following is the declension of the personal pronouns.

FIRST PERSON.		
SINGULAR.	DUAL.	PLURAL.
Nom., <i>ngape,</i> I.	<i>ngel,</i> we two.	<i>ngurn,</i> we.
Ac., <i>ngan,</i> me.	<i>lam,</i> us two.	<i>nam,</i> us.
Caus., <i>ngati,</i> by me.	<i>ngel,</i> by us two.	<i>ngurn,</i> by us.

SECOND PERSON.		
SINGULAR.	DUAL.	PLURAL.
Nom., <i>nginte,</i> thou.	<i>ngurl,</i> you two.	<i>ngun,</i> you.
Ac., <i>ngum,</i> thee.	<i>lom,</i> you two.	<i>nom,</i> you.
Voc., <i>nginta,</i> O thou.	<i>ngurla,</i> O you two.	<i>nguna,</i> O you.
Caus., <i>ngitte,</i> by thee.	<i>ngurl,</i> by you two.	<i>ngun,</i> by you.

THIRD PERSON.		
SINGULAR.	DUAL.	PLURAL.
Nom., <i>kitye,</i> he, she, it.	<i>keugk,</i> they two.	<i>kar,</i> they.
Ac., <i>kin,</i> him.	<i>keuggun,</i> they two.	<i>kan,</i> them.
Caus., <i>kil,</i> by him.	<i>keugk,</i> by them two.	<i>kar,</i> by them.

Personal pronouns are also used in an abbreviated form for the sake of euphony as affixes to nouns. The following is the commonly-used short and euphonised form.

FIRST PERSON.		
SINGULAR.	DUAL.	PLURAL.
Nom., <i>ap p,</i> I.	<i>angal,</i> we two.	<i>arn,</i> we.
Ac., <i>an,</i> me.	<i>alam,</i> us two.	<i>anam,</i> us.
Caus., <i>atte,</i> by me.	<i>angal,</i> by us two.	<i>arn,</i> by us.

SECOND PERSON.		
SINGULAR.	DUAL.	PLURAL.
Nom., <i>ind, inde,</i> thou.	<i>ungul,</i> you two.	<i>ungune,</i> you.
Ac., <i>um,</i> thee.	<i>olom,</i> you two.	<i>onom,</i> you.
Voc., <i>inda,</i> O thou.	<i>ula,</i> O you two.	<i>una,</i> O you.
Caus., <i>inde,</i> by thee	<i>ungul,</i> by you two.	<i>ungune,</i> by you.

THIRD PERSON.		
SINGULAR.	DUAL.	PLURAL.
Nom., <i>itye atye,</i> he, she, it.	<i>engk,</i> they two.	<i>ar,</i> they.
Ac., <i>in ityan ian,</i> him.	<i>enggun,</i> they two.	<i>an,</i> them.
Caus., <i>il ile,</i> by him.	<i>engk,</i> by them two.	<i>ar,</i> by them.

The genitives, datives, and ablatives of pronouns are framed by adding the following words to their respective accusatives.

Genitives, *amve, amveirle.*
 Datives, *angk, ungai, anyir.*
 Ablative, *anyir.*

The following is the declension of the pronominal adjective *kinauwe*, "of him" or "his":

SINGULAR.	
Nom., <i>Kinauwe,</i>	his.
Gen., <i>Kinanyerald,</i>	of his.

Da.,	<i>Kinanyerangk,</i>	to his.
Ac.,	<i>Kinawwe,</i>	his.
Ab.,	<i>Kinanyiril,</i>	by his.
DUAL.		
Nom.,	<i>Kenggunawurle,</i>	theirs, two.
Gen.,	<i>Kenggunanyirald,</i>	of theirs.
Da.,	<i>Kenggunanyirangk,</i>	to theirs.
Ac.,	<i>Kenggunawwe,</i>	theirs.
Ab.,	<i>Kenggunanyiril,</i>	by their.
PLURAL.		
Nom.,	<i>Kanawwe,</i>	theirs.
Gen.,	<i>Kananyirald,</i>	of their.
Da.,	<i>Kananyirenggun,</i>	to their.
Ac.,	<i>Kanawwe,</i>	their.
Ab.,	<i>Kananyiril,</i>	by their.

The interrogatives "who" and "what" are thus declined :

<i>Ngangge,</i>	who.
<i>Nak,</i>	to whom.
<i>Nak an angk,</i>	to whom (plural).
<i>Nawwe, }</i>	whose, or of whom.
<i>Nawurle, }</i>	
<i>Ngande,</i>	by whom.
<i>Nambe,</i>	for whom.
<i>Minye, "what".</i>	
<i>Minye,</i>	what.
<i>Mek,</i>	to what.
<i>Mek,</i>	of what.
<i>Mengye,</i>	by what (how).
<i>Mekimbe,</i>	for what (what for).
<i>Minyandai,</i>	what times (how often).
<i>Minyurti,</i>	what sort.
<i>Minyai, Munyarai,</i>	what number.
<i>Minde,</i>	what reason, why.
<i>Murel,</i>	with what intention.

5. The roots of verbs are always *two* or *three* consonantal sounds, with *one* or *two* vowel sounds. The moods and tenses are formed by particles joined to the roots. The only verbs which are exceptions to the first rule are compound verbs. The words composing them strictly adhere to the rule.

Example of the verb *Lak*, "to spear".

Root.	<i>Lak,</i>	spear, pierce.
Present.	<i>Lakkin,</i>	spearings.
Subjunctive and Potential.	<i>Lak al,</i>	let him spear.
Imperative.	<i>Lak our,</i>	I spear thee or ye.
Perfect.	<i>Lak emb,</i>	having speared, or was spearing.
Past.	<i>Lakkir,</i>	has been spearing.
Future.	<i>Lakkani,</i>	about to spear.
Past participle.	<i>Laggelin,</i>	speared.
	<i>Lak uramb</i>	for the purpose of spearing.
	<i>Lak ilde,</i>	ought to spear.
	<i>Laki,</i>	spear not.

EXAMPLES.

<i>Pettin ile yan,</i>	by him stealing it, he steals it.
<i>Pet al yan,</i>	let him steal it.
<i>Pet al um ityan,</i>	let you steal it.

<i>Pet our ityan,</i>	must steal it.
<i>Kile yan petemb,</i>	he did steal it.
<i>Pet emb ile yan ngak,</i>	he very near did steal it.
<i>Kile yan pettir,</i>	by him it was stolen.
<i>Ngurte yan pettin,</i>	you are stealing it.
<i>Ngurte en angk pet ilde,</i>	you ought to steal.

I chose the word *pettin* because it exhibits all the peculiarities of the verb.

6. Of the words *el* and *ellin*. *El* appears to mean intention for or towards, whether that intention be for doing or having; *ellin* expresses the intention satisfied; thus:

<i>El</i> , wish to do.	<i>Ellin</i> , doing.
	<i>Ellir</i> , done.
	<i>Ellani</i> , will do.
<i>El</i> , wish for.	<i>Ellin</i> , having.
<i>El</i> , will be.	<i>Ellin</i> , being.
	<i>Ellani</i> , about to be.
	<i>Ellir</i> , has been.

Ellin is the nearest word to our word "is" in the language. The words *el* and *ellin* are used in all the above senses, and only by the connection can we tell which.

7. Some examples of sentences in the Narrinyeri language.

Luk ap atye ellir, I did so.
So I it did.

Ngate yan ellani, I will do it.
By me it will be done.

Kuny itye ellir, He is dead.
Enough he has been.

Lald an an nguk perk an mant, Fetch me water from the well.
Up it me water well it from.

Ngape yaral an preppani wunyel atte yultun an angkngurwar narrinyeri,
I when me will be lifted up then will by me drawing me to all men.
I, if I be lifted up, will draw all men unto me.

Ak an angk pinyatowe tyilye ald amb, Give me sugar for the rice.
Here me to sugar rice of for.

Kok in oura, Put it here.
Now here it must be.

Yare m atye mitye, What is your name?
What your it name.

8. The language abounds with ellipsis, and the principal difficulty in learning it arises from elliptical expressions.

THE LORD'S PRAYER, IN LANGUAGE OF THE NARRINYERI.

Ngaiyeri anam, lewin inde wyirreware. Ungunuk urn yarnin umauwe mitye turlin urn. Umauwe kingdom tyiwewar our itye punt. Ngruwar ruwungai um our kung, ungunuk inde an taiyani, luk ennin narar wyirreungai. Pemp our ind arn krepowe hikkai nungge. Tainpul our inde ungunuk arn wirrangwarrin luk ennin arn tainpulun ungunuk ar kornar wirrangwarrin arnangk. Nowaiy inde arnan waiyani yangi ar wirrangar rampaullun arnan wirrangwarrin. Moerpun inde arnan wunyarn nowaiy wirrangwarrin. Nginte ellin governorowe, piltengi, klartin, kaldowamp. Amen.

The following paper was read :

VIII.—*On the POSITION of the AUSTRALIAN LANGUAGES.* By
W. H. I. BLEEK, Esq., Ph. D.

1. It was one of the important discoveries made by Sir George Grey, as Commander of the memorable expedition of 1838, that the languages spoken throughout the southern portion of the Australian continent are derived from one common stock. This fact has received additional confirmation from all subsequent researches, made chiefly under the direction and at the instigation of Sir George, as Governor of the colony of South Australia.*

2. Whilst a fertile source of research is hereby opened to the philologist and ethnologist, in the great variety of distinct, but kindred, languages spread over the vast area of this continent-like island, the speculative mind cannot but attempt to investigate the relations which exist between the Australian family of languages, and other varieties of human speech known to us.

3. The grammatical structure of their nearest neighbours, the POLYNESIAN languages, appears to be almost *diametrically opposite* to that of the Australian languages.

4. Analogies have been pointed out as existing between the Australian and the DRÂVIDIAN (or South-Indian) languages. With regard to this, I cannot do better than quote the words of the Rev. R. Caldwell, the best authority on these languages, who (at pp. 51-53 of his "Comparative Grammar") writes as follows :

"It seems proper here to notice the remarkable general resemblance which exists between the DRÂVIDIAN pronouns and those of the aboriginal tribes of Southern and Western AUSTRALIA. In whatever way it may be explained or accounted for, the existence of a general resemblance (which was first pointed out by Mr. Norris), seems to be unquestionable; but it has not hitherto been observed that the Australian pronouns of the first person, are more nearly allied to the Tibetan than to the Drâvidian. This will appear from the following comparative view of the pronoun of the first person singular :

	DRÂVIDIAN.	AUSTRALIAN.	TIBETAN.	CHINESE.
I,	<i>nân, nâ, ên.</i>	<i>nga, ngai, ngatoo.</i>	<i>nga, nge, nged.</i>	<i>ngo, nganya.</i>

"Whilst the base of this pronoun seems to be closely allied to the corresponding pronoun in Tibetan, and in the Indo-Chinese family generally, the manner in which it is pluralised in the Australian dialects bears a marked resemblance to the Drâvidian, and especially to the Telugu. The Telugu forms its plurals by

* Vide "The Library of His Excellency Sir George Grey, K.C.B. Philology. Vol. ii, part i, Australia". 1858. Trübner and Co.

suffixing *lu* to the singular; the Australian dialects by a similar addition of *lu*, *li*, *dlu*, *dli*, etc.

"In this particular some of the dialects of the north-eastern frontier of India exhibit also an agreement with the Telugu: *e.g.*, compare Dhimal *nî* 'thou', with *nyel*, 'you'. In the Australian dialects I find the following plurals and duals of the pronoun of the first person, 'we', or 'we two', *ngalu*, *ngadlu*, *ngadli*, *ngalata*, etc. Compare this with the manner in which the Telugu forms its plural: *e.g.*, *vad'-u*, 'he'; *vâdlu*, 'they'; and even with the colloquial Tamil plural of the pronoun of the first person: *e.g.*, *nîn*, 'I'; *nânggal*, 'we'. The resemblance between the Australian pronouns of the second person, both singular and plural, and those of the Dravidian languages is more distinct and special, and is apparent not only in the suffixes, but in the pronominal base itself. The normal forms of these pronouns in the Dravidian languages are, singular, *nîn*, plural, *nîm*. The personality resides in the crude root, *nî*, 'thou'; which is the same in both numbers, with the addition of a singular formative *n* (*e.g.*, *nî-n*, 'thou'), and a pluralising formative *m* (*e.g.*, *nîm*, 'thous', or 'you'). In some cases the pluralising particle, *m*, has been displaced, and *r*, which I regard as properly the sign of the epicene plural of the third person, has been substituted for it: *e.g.*, *nîr*, 'you' (in Telugu *mîr-u*).

"This abnormal form *nîr* is most used in a separate form; the older and more regular *nîm* retains its place in compounds, and in the imperative of the verb. Whilst *i* is the vowel which is almost invariably found in the singular of the pronoun of the second person, in the plural *i* often gives place to *u*, as in the classical Tamil *numa*, 'your', and the Brahui *num*, 'you'. It is to be noticed also that the modern Canarese has softened *nîm* into *nîvu* or *nîvu*, in the nominative.

"It is singular, in whatever way it may be accounted for, that in each and all of the particulars now mentioned, the Australian dialects resemble the Dravidian. See the following comparative view. Under the Australian head I class the dual together with the plural, as being substantially the same.

DRavidIAN.	AUSTRALIAN.
Thou, <i>nîn</i> , <i>nîn</i> .	<i>ninna</i> , <i>nginne</i> , <i>ngintoa</i> , <i>nginte</i> .
You, <i>nîm</i> , <i>nîm</i> , <i>nîr</i> , <i>num</i> , <i>nîvu</i> .	<i>nimedoo</i> , <i>nura</i> , <i>niwa</i> , <i>ngurle</i> .

"Compare also the accusative of the first person singular in Tamil, *ennei*, 'me', with the Australian accusative, *emmo*.

"The grammatical structure of the Australian dialects exhibits a general agreement with the languages of the Scythian group. In the use of post-positions instead of prepositions, in the use of two forms of the first person, plural, one inclusive of the party addressed, the other exclusive (?); in the formation of inceptive,

causative, and reflective verbs by the addition of certain syllables to the root; and, generally, in the agglutinative structure of words and in the position of words in a sentence, the dialects of Australia resemble the Dravidian—as also the Turkish, the Mongolian, and other Scythian languages; and in the same particulars, with one or two exceptions, they differ essentially from the dialects which are called Polynesian.

“The brief vocabularies of the Australian dialects which have been compiled do not appear to give additional confirmation to the resemblances pointed out above; but it is difficult to suppose those resemblances to be unreal, or merely accidental; and it is obvious that the Australian dialects demand (and probably will reward) further examination.”

5. So far Caldwell, and there are certainly reasons which incline us to believe that all these belong to one very extensive class of similarly organised languages. Their chief characteristic appears to be the agglutinative formation of their structure, in which the grammatical relations of the words are generally indicated by suffixes. Prefixes occur but seldom in languages of this class, and the stems of the words are rarely affected by internal flexion. A grammatical gender does not exist in the greater number of these languages, but the nouns are generally declinable in an almost infinite variety of cases.

6. Most of the nations by whom languages of this class are spoken, are addicted to a nomadic manner of life; and when, adopting more settled habits, their speech is even found to lose, to some extent, the distinguishing characteristics of the languages of this class. Professor Max Müller has, therefore, distinguished this class of languages by the name of “nomadic”, and he has very ingeniously shown how the nomadic character of the people who speak them almost necessarily produces great dissimilarities in the external form of the language, affecting the vocabulary, as well as the suffixes by which the same grammatical relations are denoted in dialects closely akin to each other. After all, the outward appearance of a language is everywhere its most insignificant part, on account of the continual changes to which this is necessarily subject.

7. It is difficult to find an appropriate name for this large class of languages; and if we designate them, with Max Müller, by the term “TURANIAN” (in a far wider sense than the word can, strictly speaking, claim), it is only because all other names proposed are liable to still greater objections. “Turanian”, in this wider sense, is used to denote all such languages as appear to be of similar construction to those to which in the first instance the name Turanian was applied.

8. The threefold division of *Mundshu-Mongolian*, *Tatar-Turk-*

ish, and *Finnic-Hungarian* (constituting the *Ural-Altai* family), forms the centre of this wider class of Turanian languages. A West-European branch is formed by the *Euscara* or *Basque* language, spoken on both sides of the Pyrenees. In Africa, the *Mande* dialects (*Vei, Mandingo, Susu, Bambara*, etc.), the *Bornu* language, and probably also that of the *Tibbu* or *Teda*, belong to this class. The Bornu language, especially, shows curious points of resemblance to the language of the second style of Cuneiform Inscriptions, which, to whatever nation it may have belonged, must have been of extensive use and great importance throughout Persia.* To the North-West, the Turanian languages appear to have extended themselves over the continent of *America*, where at least a great number of the multifarious tongues exhibit the characteristics of this extensive class of languages.

In Southern Asia, the *Dravidian* languages constitute another branch. They are found not only in Southern India, but detached members of them have also been discovered to the north-west of the peninsula. And further southwards the *Australian* languages, as far as they are known to us, are recognised as belonging to the same class.

9. I have purposely, here, spoken only of a *class*, and *not of a family of Turanian languages*; as although they possess sufficient features in common to justify us in including them under the same head (in the absence of any evidence to the contrary) in a general classification of languages, it cannot be said that the points of resemblance are such as necessarily to constitute a closer affinity. On the contrary, it is not impossible that some or all of these languages exhibit only certain stages of development in one particular direction, taken either by members of different families, or by different branches of the same family.

10. The *genderless* character, which appears at first sight as one of their main characteristics, is only a negative quality which may be a mere consequence of the disappearance of a former grammatical gender; and is certainly to be recognised as such in the Persian language. And the other characteristic of the Turanian languages *viz.*, the *use of suffixes and postpositions*, is shared by them with the most primitive stages of the *Sex-denoting family*. The possibility, therefore, offers itself that some, at least, of the so-called Turanian languages may have branched off from the sex-denoting languages at a very early period in the development of the latter, losing the characteristic gender of the nouns, as the Persian has done at a later period.

* The so-called personal pronouns in both languages are entirely the same; and the plural prefix in Bornu is identical with that of the cuneiform inscriptions. *Nomina abstracta*, in both languages, are formed by the same prefix, etc. Is this, perhaps, an evidence of Tataric invasions of Africa before the time of Cambyses; or has the reverse been the case?

11. This supposition receives support from the observation of a kindred fact in the history of African languages. Here, as is well known, *South Africa* is full of languages of one family (the *Bantu*), in which the nouns are divided into classes. This classification, although identical in principle with that of the sex-denoting languages, is yet entirely different from it in all its outward features—firstly, in *not* being based upon the representation of the nouns by their suffixes, but by their prefixes; and secondly, by *not* combining the classification of the nouns with any sexual distinctions.

12. Now, it is first to be remarked that many of the languages of the TURANIAN CLASS are either lying between those of the *Sex-denoting family*, or are contiguous to them.

13. As regards the *Dravidian* languages, the characteristic of genderless can by no means be applied to them; on the contrary they have different genders for their pronouns almost in the same way as the English language, and it is not improbable that this grammatical arrangement has descended, as in English, from a classification of the nouns that was originally grammatical and not logical. It does not necessarily follow, on this account, that the *Dravidian* languages belong to the same *Sex-denoting* family, which includes the *Aryan* or *Indo-European*, the *Semitic*, the *Egyptian*, and other *North-African* languages (*Berber*, *Haussa*, *Galla*, etc.), as well as the *Hottentots*. These sex-denoting languages clearly show by the original identity of their signs of gender that they belong to one great family, and we have lately learned that this also includes the *Khasi* or *Cassia* of Lower Assam. But this identity in the forms of the original signs of gender is not as clear in the case of the *Dravidian* languages; and we, therefore, hesitate to ascribe them to the same family. We are in the same doubt with regard to one of the *Oceanic* languages,—that of *Tarawa* (Gilbert or Kingsmill's Islands), which, according to Mr. H. Hale (United States Exploring Expedition, 4to, New York, 1846, p. 441), is sex-denoting. I have in vain searched throughout the *North American* languages for any which exhibit a sex-denoting character, but it is remarkable that *South America* affords us a number of them, in the *Arawack*, the *Betoi*, *Yaura*, *Moxa*, and the languages of the *Maipures*, and *Abipones*. This is not the place to inquire, by analysis, whether any of the South American languages belong to the same sex-denoting family as that which has received this name *par excellence*. But, in any case, the sex-denoting character can only have arisen in them from a system of Concords, which stamps them unmistakeably as belonging to the larger group of *PRONOMINAL* languages.

14. Similarly, there can be no doubt that the systems of clas-

sifying the nouns, which exist in many *North American* languages, are clear evidences that the languages in which they occur belong also to the PRONOMINAL group. Until it can be proved that the grammatical classification of the nouns arose in a different manner (and there are no evidences discernible to me which tend that way), it must be presumed that here, also, classes, which were originally entirely of a grammatical nature, have been fashioned so as apparently to adapt themselves to logical distinctions, be they such as distinguish male and female, rational and irrational, or animate and inanimate, etc.

15. If a great number of the *American* languages thus bear certain evidences of belonging to the group of PRONOMINAL languages, it may appear very questionable whether there still exist any languages which can be safely excluded from this group. In fact, although a time must have undoubtedly once existed in the formation of language when true pronouns were unknown, it is clear that the possession of true pronouns must give so much additional vitality to a language, and prove so energetic a stimulus in the development of the nations using such languages, that it could not at all be wondered at if they had effectually swept all lower stages of language from the face of the earth.

16. This is a possibility, but it would, as yet, be premature to consider it even as a probability. If, however, it can be proved that the languages now spoken by the races who are lowest in the scale of civilisation, do belong to the PRONOMINAL GROUP, then the probability greatly increases that the lower stages in the development of language (*i.e.*, those preceding the formation of true pronouns) have all ceased to be represented.

17. In this respect, it is particularly important to examine carefully such languages as those of the *Bushmen* in *South Africa*,* of the lowest *American* tribes (those living to the west of the *Rocky Mountains* in North America, and the *Fuegians* in South America), and also of the *Australian* tribes.

18. As far as I know, for none of these languages has so much reliable material been collected, as for the AUSTRALIAN; and in this respect it is probably more easy to determine their position than that of the other above-mentioned languages.

19. If, as maintained, the relationship of the *Australian* languages to the *Dravidian* holds good, then the existence of a three-fold gender in these latter languages (similar to that in the English language) appears to settle the question. For, in this

* The employment of the process of re-duplication for the purpose of forming the plurals of nouns is not as peculiar to the *Bushmen* language as I thought when writing my essay on that language; for I now see that it is also met with in several *North American* languages spoken to the west of the *Rocky Mountains*. (H. Hale, "United States Exploring Expedition", pp. 534, 537, 545, and 566.)

case, we must reckon the Australian among those languages which had originally a sex-denoting character,—although they need not on this account belong to our own great sex-denoting family. In fact, one of the *East Australian* languages (that of *Lake Macquarie*, described by Threlkeld) still clearly possesses sex-denoting pronouns. The forms of these pronouns are, indeed, not such as to bear any resemblance to the signs of gender in our sex-denoting family of languages; but it must be borne in mind that e. g., in English, *he, him, she, her*; in German, *er, ihm, sie, ihr*; and in Danish, *han* (he), and *hun* (she), do not bear the slightest trace of the original sex-denoting signs of gender. In fact, when once the sex-denoting character has been impressed upon a language, the distinction of sex may, with the disappearance of the old signs of gender, become attached to such particles as had originally no connection with the distinctions of gender. Similarly, a negative character has, in many languages, become attached to elements of speech which etymologically have a decidedly reverse meaning. Thus e. g., the German indefinite pronoun *uh*, “any”, forms, with the original negative particle *ni*, the negative indefinite pronoun *ni-uh*, “not any”. The latter combining with the numeral *ein*, loses its first syllable, and becomes in modern high German *kein*,—so that the *k* now appears to imply negative force, although it is etymologically identical with the *h* of *uh*, which possesses no meaning of this kind.

20. The shape of the pronouns distinctive of sex is due to similar processes, in the course of which the original signs of gender have been replaced by other particles which have, etymologically speaking, no connection with the distinction of gender. The difference between the apparent sex-denoting pronouns of the *Australian* as well as *Dravidian* languages, and the original signs of gender in the great *Sex-denoting family*, is, therefore, no absolute bar to the possibility that they may all have derived their sex-denoting division of nouns from the same source.

21. In this respect, it is to be remarked that the *Dravidian* languages show many other points of resemblance to the *Sex-denoting family*, and particularly to the *Aryan* or *Indo-European* branch. The latter may, indeed, be partly explained by the very probable supposition that the formation of the *Indo-European* languages took place under the influence of neighbouring *Turanian* languages,* just as in the formation of the *Semitic* languages,

* I do not wish to be understood as in any way upholding the theory of the Asiatic home of the Aryan mother-language. I believe, on the contrary, that Dr. Latham's common sense has rightly protested against the probability of a doctrine which derives a family of languages from a part of the world in which only *two* closely allied branches of it (the *Indian* and *Iranian*) are met with, whilst those branches which have deviated from the original stock in far older times, *Teutonic*, *Slavonic*, *Celtic*, *Italic*, and *Greek*,

the influence of the *African Prefix-pronominal* languages appears to be discernible. Yet some primary points of resemblance remain which do not easily allow of such a solution. We do not reckon among them the use of suffixes and post-positions; as we find many instances of inversion by which languages have adopted prepositions and prefixes,* where suffixes and post-positions were originally employed. So that the use of either post-positions and suffixes, or prepositions and prefixes, cannot in itself be recognised as a necessary sign of common descent. It is true that, as yet, no language has been historically proved to have exchanged the original prefixes and prepositions, for suffixes and post-positions; but I can see no clear reason why such might not have been the case, and I am inclined to believe that some approach to this inversion has been made in languages of the (African) *Gor* family. On this account, it is quite possible that a language, in which now only post-positions and suffixes occur, may be more nearly related to one in which prefixes and prepositions are found, than to another which agrees far better with it as regards the present position of the grammatical elements.

22. Something more is, therefore, needed, than a general similarity in the arrangement of the grammatical structure, in order to establish any near relationship between languages. A thorough knowledge of, at least, one of the *Australian* languages will be requisite to enable one to see clearly to what family these forms of speech truly belong. But all that I have been enabled to give to this subject are mere fleeting glances; and all that I, therefore, can adduce, are a few observations on points which have struck me as curious.

Thus it appears remarkable to me that in some *Australian* languages the names used for distinguishing either the position of *females* in the family or their caste, end in *-atha*, *-ata*, or *-ato*. In the *KAMILAROI* language, spoken near Sydney, the natives are divided into four castes, viz., *ippai* (masc.), and *ippāthā* (fem.); *murrī* or *baia* (masc.), and *mātha* (fem.); *kubbi* (masc.), and *kāpōta* (fem.); *kumbo* (masc.), and *būtha* (fem.). (W. Ridley's paper on the Kamilaroi Language in "Transactions of the Philological Society, 1855", p. 83. *Vide* also Norris's edition of Prichard, pp. 490-492).

Further to the west, the *TEREBOO* tribes at the *Condamine*

are without a single original representative in Asia. I should not, perhaps, have been so bold in this instance, in withstanding a deep-set superstition, had I not found that I was supported in my opinions by so excellent a Sanscrit scholar as Professor Benfey.

* The modern European languages do not stand alone in this respect. Both the *Coptic* and the *Khasi* have converted the former construction of the sex denoting languages (with suffixes and post-positions) into one with prefixes and prepositions.

river ("Sir G. Grey's Libr., vol. ii, part 1, Australia," p. 29, vii, B. p.) distinguish two castes, viz., *Cobbi* (masc.), and *Cobbitha* (fem.); *Hippi* (masc.), and *Hippitha* (fem). These are evidently identical with two of the Kamilaroi castes.

Among the *South Australian* tribes from the neighbourhood of ADELAIDE, the children in each family are distinguished by the following names:

MALE.		FEMALE.	
First child.....	<i>Kertameru</i> (<i>Kartammeru</i>).	<i>Kertanya</i> (<i>Kartanya</i>).	
Second child.....	<i>Warritya</i> .	<i>Warriarto</i> .	
Third child	<i>Kudnatya</i> .	<i>Kudnarto</i> (<i>Kudnato</i>).	
Fourth child.....	<i>Monaitya</i> (<i>Munaitya</i>).	<i>Monarto</i> (<i>Munato</i>).	
Fifth child.....	<i>Milaitya</i> (<i>Midlaitya</i>).	<i>Milarto</i> (<i>Midlato</i>).	
Sixth child	<i>Marrutya</i> .	<i>Marruarto</i> (<i>Marruato</i>).	
Seventh child ...	<i>Wongutya</i> .	<i>Wongwarto</i> .	
Eighth child.....	<i>Ngarlaitya</i> .	<i>Ngarlarto</i> .	

(Mr. Moorhouse's Report, etc., in Manuscript No. 3 of Sir. G. Grey's Library.—Vol. ii, part 1, Australia, vii, p. 66).

In the PARNKALLA dialect, these names have the following forms:

MALE.		FEMALE.	
First child.....	<i>Piri</i> .	<i>Kartanye</i> .	
Second child.....	<i>Wari</i> .	<i>Wayuru</i> (<i>Waruyu</i>).	
Third child	<i>Kunni</i> .	<i>Kunta</i> .	
Fourth child.....	<i>Munni</i> .	<i>Munnaka</i> .	
Fifth child.....	<i>Marri</i> .	<i>Marrukko</i> .	
Sixth child	<i>Yarri</i> .	<i>Yarranta</i> .	
Seventh child ...	<i>Milli</i> .	<i>Mellakka</i> .	
Eighth child.....	<i>Wangguyu</i> .	<i>Wanngurtu</i> .	
Ninth child	<i>Ngallai</i> .	<i>Ngallka</i> .	

PERSON BEREFT OF HIS
ELDER BROTHER.
Warnpuyu.

WOMAN BEREFT OF HER
ELDER BROTHER.
Warnpurtu.

The *k* of *-ka* and *-ko* in the above terminations is evidently derived from an original *t*, a letter which is frequently commuted in this manner in the Parnkalla dialect.

24. The termination of so many AUSTRALIAN female names in *-atha*, *-ata*, or *-ato*, reminds us forcibly of the endings of feminine nouns in languages of the SEX-DENOTING family, i.e., *-at*, obj. *-ata*, in Semitic dialects, and also in Indo-European languages, *-t* in the same, and in Egyptian, Coptic, Berberic, Hausa, etc. (*Vide* "De Nominum Generibus Linguarum Africae, Australis, Copticae, Semiticarum, aliarumque Sexualium").

25. That we have not yet discovered any certain traces of the original termination of masculine nouns, is not to be wondered at; for this ending has very generally disappeared in the sex-denoting languages;—a circumstance which appears to be mainly

due to the softer and less tenacious nature of the labial consonant of this termination.*

26. Not too much stress is to be laid upon these points of resemblance, which may be accidental; for these AUSTRALIAN feminine endings may be merely abbreviations of a noun indicating "woman". Yet they deserve to be noticed; particularly in connection with the DRÂVIDIAN termination of feminine nouns, *-atti* or *-tti* in Tamil,† *-iti* or *-ti* in Canarese, and *-adi* or *-di* in Telugu. It is true that Caldwell (pp. 180 and 181), from whom I quote, considers these as neuter terminations applied to the distinction of the feminine gender. But this explanation appears to me by no means probable; on the contrary, it is far more natural and in keeping with the general modes of change in the classification of nouns, that when the old form of the suffix and pronoun of the feminine singular had become homophonous with that of the neuter gender, both genders were combined into one. This appears also to be the case in the Telugu pronoun *adi* (or *idi*), which means "she" as well as "it" (Caldwell, pp. 173 and 174, 182 and 334).

27. But now, let us suppose that these comparisons of AUSTRALIAN and DRÂVIDIAN features of language, with those of the SEX-DENOTING family, hold good. It may yet be objected that languages of the *Turanian* class might still be nearly related to the *sex-denoting* family, without this necessarily involving, as a consequence, that these Turanian languages had ever possessed the distinguishing peculiarity of a division of the nouns into genders, as still found in the sex-denoting languages. But such a supposition would only be admissible in case it were proved that the distribution of nouns into classes or genders in the sex-denoting languages was due to a comparatively recent acquisition. This feature of the structure, however, instead of being newly gained by the sex-denoting languages, is with them only the residuum of a much fuller organisation, which contained a far greater number of different genders, based upon the different derivative particles of the nouns and the pronouns derived from them. Consequently, if these Turanian languages have *not* descended from a structural condition similar to this, they cannot be, in any way, nearly allied to the sex-denoting languages; but would have to be considered as even more distant from them than

* The termination *-tya* of names of male children among the ADELAIDE tribes is possibly to be considered as derived from an original *-ba*, or *-pa* (masc. sing. obj. of the Hottentot language), by palatalisation of the labial sound. In a similar way, the Semitic language has converted the prefix-pronoun *w* of the masculine into *y*.

† *Vellâl-atti*, "a woman of the cultivator caste"; *vellâl-an*, "a man of the same caste"; *oru-tti*, "one woman, una"; *oru-(v) an*, "one man, unus"; *vannâ-tti*, "a washerwoman"; *vannâ-n*, "a washerman"; etc.

are the Kafir and other prefix-pronominal languages; since the structure of the latter is really founded on the same basis as that of the suffix-pronominal languages.

28. If, on the contrary, these TURANIAN languages have merely lost the most striking features of the PRONOMINAL languages, and are to be included in the class of SUFFIX-PRONOMINAL languages,—then, that member of the latter class which has best preserved its primitive organisation, becomes of the greatest importance for the comparative study and analysis of the structure of any of these Turanian, as well as of the sex-denoting languages. This consideration, of course, greatly increases the value of whatever we may be still able to preserve of the most primitive among the sex-denoting languages, *viz.*, that of the HOTTENTOT tribes, who are now so rapidly vanishing from the face of the earth.

29. It must, however, be remembered that a language, which has retained some very original structural features, is by no means necessarily to be regarded as if in every way exhibiting the original state from which the structure of all the kindred languages is to be derived. No language is entirely stationary; but while some pass rapidly through a great variety of stages, in which their form may be almost entirely changed, others advance but very little from their primitive condition. Yet the latter may, in their slower progress, have obliterated some traits which the former may have faithfully retained in all the phases through which they passed. There are some points in which even modern English is more original than the most ancient Sanscrit. In a similar manner the AUSTRALIAN languages may, through the process of accelerated decomposition, have lost the ancient and original division of the nouns into genders, and yet they may be found in other respects to be more conservative than even the most primitive SEX-DENOTING language, and may thus throw light upon many features which have already been obscured in the HOTTENTOT dialects.

30. For the same reason, the OTYIHERERÓ and other languages of the west coast of South Africa, which are, in general, far less primitive than the KAFIR and ZULU dialects, have retained the ancient number of sixteen different classes of the nouns, while three of these classes have disappeared in the latter dialects. And the POLYNESIAN and PAPUAN languages, which have almost entirely lost this division of the nouns into classes, are yet, in some other respects, evidently much more primitive than any African member of the Prefix-pronominal class of languages. *E.g.* the distinction of exclusive forms of the plural and dual of the first person, is restricted to the Oceanic members of this class of languages.

31. I have here taken for granted a fact which I consider as sufficiently established, and which I have more fully elucidated in a paper on the PAPUAN and POLYNESIAN languages. I may here merely add that the evidence to show that the *Polynesian* dialects belong to the class of PREFIX-PRONOMINAL languages, and that the *Papuan* tongues form the link connecting them with the SOUTH AFRICAN members of this class, is of a much more direct and conclusive nature than that which is yet found to connect any of the Turanian languages with the Suffix-pronominal class. We may, therefore, well assume it as a fact, that the *tropical regions* of the *Oceanic* world, as well as those of the *African* continent, are mainly occupied by languages of the PREFIX-PRONOMINAL class, whilst the SUFFIX-PRONOMINAL languages are found rather on the outskirts of the tropics, and in the more temperate and cold latitudes. The full Negro blood of Africa and of the Papua Islands is, with very few exceptions, restricted to nations speaking Prefix-pronominal languages. The AUSTRALIAN native is probably mainly a degenerate offspring of the SOUTH INDIAN race, and it is possible that the latter may have a share of Negro blood in their veins, although neither their physiognomy nor their hair shews the least trace of such an origin; whilst the colour of the skin can be but of minor importance in deciding ethnological questions. It is, however, not at all improbable that some portion of the Negro race originally occupied the tropical districts of India, and that, through intermixture with conquering tribes from the north, they exchanged their own Prefix-pronominal dialects for a Suffix-pronominal tongue. The physical appearance of the POLYNESIAN race is perhaps still more perplexing in this respect; but we have here certain proofs of the admixture of a *yellow or light-coloured race* from the north, with the original *Papuan* or *Negrito* blood. The latter seems, in this instance, to have prevailed in retaining its own language, or, at least, the fundamental features of its structure.

32. However this may be, there is no doubt that consanguinity of race and of language do not always coincide. The dialects of the jet black SOUTH INDIANS and AUSTRALIANS seem to be derived from more northern zones, whilst those of the light-coloured *Polynesians* are distinctly of tropical origin, and appear to belong to a class of languages which is generally restricted to nations of true Negro descent. The yellow race from the north, who apparently mingled their blood with that of the original Negrito population, probably fared no worse with regard to their language than did the Norman invaders of England with their own. We know that it was through the influence of the latter that the German dialect spoken by the Anglo-Saxons was re-

moulded, and exchanged its primitive, but clumsy, structure for one poor in grammatical forms, but far more convenient and logical; and the original *Papuan* type of the *Polynesian* language seems also to have been simplified through the influence of the *yellow* race that, in this case, overran original *Negrito* territory. It was, to a great extent, through this process of being cast in a new mould, that the original grammatical gender of the nouns in the English language was converted into a logical one; and, also, that the *Polynesian* languages lost, in their formation, the last traces of that distribution of the nouns into classes which is peculiar to the original type of the PREFIX-PRONOMINAL languages, and which is still clearly visible in *Papuan* languages. That the *Australian* and other *Turanian* languages have lost the grammatical gender of the nouns, is perhaps also due to similar influences, *i.e.*, admixture of foreign blood, or the transfer of the language of a conquering tribe to a subjugated nation.

33. We have here seen that the physical descent of nations is by no means indicative of the family or class to which their form of speech belongs. But their mental characteristics, their religious ideas, and their customs and habits, may generally be supposed to be derived from the same source as their language. It is especially remarkable, in this respect, that the two great classes of PRONOMINAL languages exhibit each a different principle of primitive *Mythology*. On the one hand, the nations whose languages belong to the *Prefix-pronominal* class are principally addicted to *Ancestor Worship*, whilst *Sidereal Worship* is common to those who speak languages of the *Suffix-pronominal* class. The religious ideas of the *Kafirs* in South Africa, the *Temnes* at Sierra Leone, the *Maories*, and other *Polynesian* peoples, are evidently originally the same; whilst the principle of *Sidereal Worship*, common to the most ancient nations of the *sex-denoting* family in Africa, Asia, and Europe, belongs also to the AUSTRALIAN, and, as far as I know, to most of the other *Turanian* nations. It is, indeed, true that the spread of one religious belief over nations of quite different descent in language as well as in blood, is by no means a rare occurrence. But proselytising religions generally possess a more substantial form and dogmatical character than the fairy tales of the worshippers of the Pleiades and other sidereal objects. The Greeks cannot be said to have been over-zealous in converting foreign nations to their own beautiful mythology; and as to ancestor-worship, its very nature renders it a merely tribal and national religion, one which can only be inherited, and not transplanted.

34. It is here difficult for me to refrain from entering more fully into the details of a subject so pre-eminently interesting, which I have treated more at length in the preface to my treatise.

tise "On the Origin of Language." I may, however, be allowed to express the hope, that the time will soon come when the mythological ideas and traditions of all other branches of human kind will be as faithfully recorded as those of the Maori race have been by the exertions of Sir George Grey. Then shall we be enabled to construct a Comparative Mythology of so high and universal a character as has at present not even been imagined by the most sanguine ideologist.

35. With regard to the Australian aboriginal mythology and religious customs and observances, the library of Sir George Grey already contains several very important documents. It would appear from these as if the religious ideas now entertained by the Australian natives were the remains of a fuller and more consistent system of mythology; and, in general, the present state of their manners, customs, and habits, seems to favour the idea that they have fallen from a higher stage of civilisation. The artificial nature of their weapons, their knowledge of the art of spinning, the peculiar system of castes existing among them, and many other circumstances besides, tend to confirm this view. It is, doubtless, not too much to say, that their having been spread in small numbers over a vast continent, produced almost necessarily with them (as it has done with many European settlers in new countries) the loss of many of those acquirements of civilisation which they had originally possessed.

DISCUSSION.

Dr. CHARNOCK, after stating that the Dravidian languages were named from *Drávida*, a term used in Sanskrit writings for the southern parts of the Indian peninsula, and that the principal of these (of which there are nine) are the Tamil, Telugu, Karnáta and Malayálam, defined the area in which they are spoken. Dr. Bleek thought there was an affinity between the Australian and Drávid languages, because both were sex-denoting, but he (Dr. Charnock) doubted if this amounted to much, when the large number of this class of languages was taken into account. Dr. Bleek suggested a resemblance between the Australian and Drávid pronoun of the first person A., *aga*, D., *nán*; but it would have been nearer had the latter been written with *ng* instead of *n*; and it appeared from the paper itself that the Australian pronoun was nearer the Tibetan and Chinese. It must, however, be noted that the Chinese word was properly *wo* or *go*, although in the manuscript dictionary it was found written *ngo*. But in six of the languages of southern and western Australia (to which part of the continent the paper referred) and also in the Cornu language a different pronoun was used. Dr. Bleek suggested an affinity between the Australian feminine terminations in *atha*, *ata*, *ato*, and the Drávid feminine terminations, viz., in Tamil, *alte*, *titi*, *iti*, *ti*, *adi*, *di*; and this might seem to be corroborated by certain feminine vocables in Sanskrit, and the Tatar and Finnic-

Tatar languages; but, as Mr. Caldwell had shown, the proper feminine singular in Tamil is *al* (Karnáta, *alu*); and the terminations *atti*, etc., are derived from a Telugu neuter. The author of the paper might have shown an affinity between Australian and Drávid in the absence of the sibilant, and the presence of the nasal *ng*. On the other hand there was a paucity of elemental sounds in the Australian, the principal being the dental and the nasal, whereas the Drávid had also the aspirate, guttural, cerebral, labial, and palatal. With regard to the Australian languages themselves (they were languages, not dialects) there was some resemblance between the words of the languages of the north, those of the south, those of New South Wales, and those of the west, and to some extent between those of the south and of the west. There was considerable affinity, vocabulary and otherwise, between the Kamilaroi and the Wiraturei, the former being spoken about Hunter's River and Lake Macquarie, the latter at Wellington Valley, which were about two hundred miles apart. With these exceptions, there was perhaps no country in which the languages had so little in common as those of Australia. It had been said that there were two races in Australia—the Papuan and Malay. As far as languages went, after an examination of about twenty of these, he (Dr. Charnock) had only found two Papuan words; but he had not been able to trace any to the Malay.

Mr. W. C. DENDY remarked that the papers which had been read that evening were replete with statistical and philological information; yet it was to be regretted that the comparative philology of Oceania absorbed so much of the time. No doubt there was much similarity in the languages of the Pacific, but regarding monosyllabic and disyllabic dialects different and even remote tribes might constantly adopt the same syllables and names, without any concert or even knowledge of each other. So the ethnic conclusions on philology would often be very vague. The latter pages, however, of Mr. Wake's paper afforded some important subjects for debate. What were the aborigines of Australia, the present natives? If we are to believe that Australia was the cradle of our race, why do the Maoris, etc., after so many centuries, display so rude and barbarous a nature? They were, whether primitive man or not, the real savages of the earth, and probably, like the negroid, would ever remain so. The uncivilised type of the Creation, they would never attain the exaltation of the Archencephalic or Caucasian family to the standard of high intellect. He thought that the term savage should be restricted to those beings of a low organisation, who could make no progress in civilisation, but remained in their primal state of barbarism. It was a great ethnic error to stigmatise such a being as Caractacus with such an epithet, even though he were a wild uncouth Briton in his rudest state, for he was naturally endowed with all the elements of intellect, sooner or later to be developed. The speaker regretted that a flood of simple speculative philology should have so completely interfered with the full discussion of Mr. Wake's interesting paper.

Dr. R. KING referred to the use of the throwing-stick among the Esquimaux, and to the existence of polyandry among these people.

Colonel LANE FOX remarked that an instrument resembling the Australian boomerang was used by certain hill-tribes in India, and that a similar weapon was also used by the ancient Egyptians, as figured upon some of their monuments. He considered that this fact lent support to Professor Huxley's views on the relation between the Australians, Dravidians, and ancient Egyptians, as deduced from a study of their physical characteristics. The speaker also pointed out some analogy between the shields used by these peoples.

The PRESIDENT observed that the throwing-stick was certainly not peculiar to the Australians. He believed that the so-called Indian boomerang was thrown *directly* at the object, and consequently its principle was different from that of the true Australian boomerang. The system of lending wives was common among many of the lower races, and by no means restricted to the Australians. He doubted whether there was any evidence of polyandry in Australia.

Mr. WAKE, in reply, said that no doubt the throw-stick or *wommera* was as Dr. King said, used by the Esquimaux, and was known in principle to the ancient Romans. As to the boomerang, Colonel Fox pointed out that the ancient Egyptians had, as the Kolis of Southern India still have, an instrument resembling it in form. This is true, but the peculiar action of the boomerang, as described by the President, was special to itself. The possession by these peoples of the same instrument was, moreover, no real evidence of affinity, as it might have been accidentally improved in the same direction, by each of them independently, from a much simpler form, which, like the Australian *dowak* or *dwirri* (the Kafir *kerrie*), might also have been used for throwing at game. As to the moral condition of the Australians, of course the custom of wife-lending alone was no proof of especial moral degradation, but it must be taken as part of the general evidence. Although recognised polyandry did not exist among them, yet wife-lending and the system of allowing young wives to have lovers is practical polyandry. There is literally no evidence that the Australian aborigines have fallen from a higher state of civilisation. Probably they possess an Asiatic element, but, when introduced, this was doubtless as barbarous as that with which it became blended. Mr. Dendy's opinion that, as they are unimprovable, they could not be the primitive race of man is untenable. If man originated in Australia, he would ultimately spread into countries where the conditions were better fitted for progress, and where improved races would be formed from which the present ones were more immediately descended.

ANTHROPOLOGICAL MISCELLANEA.

NOTICE OF SOME RECENT ANATOMICAL WRITINGS BEARING UPON ANTHROPOLOGY, BY PROF.

LUIGI CALORI, OF BOLOGNA.*

In the sixth volume of the *Anthropological Review* (No. 22, p. 279), some account was given of a memoir of Professor Calori upon "The Brain of a Negro of Guinea," which he had read before the Academy of Sciences of the Institute of Bologna. It was hinted in that article that Dr. Calori's study of the Negro brain was far more elaborate, accurate, and complete than any which had preceded it, and that it was deserving of high commendation. This eminent anatomist has not been unmindful of the anthropological bearings of his noble science, since the issue of the essay upon the brain of the Ethiopian. On the contrary, he has sedulously pursued his inquiries in different select directions. We now purpose to give a brief sketch of these.

I. The first of his memoirs, to which we wish to recal the attention of anthropologists, was a note upon the supernumerary sutures in the human skull, and those especially of the *ossa parietalia*.† This explanatory memoir took its rise from a preceding note of Dr. Eudes-Deslongchamps, secretary of the Linnæan Society of Normandy. Dr. Eudes-Deslongchamps had received a series of skulls of New Caledonians, from M. Déplanche, a naval surgeon, among which are crania of those who were killed in a massacre in New Caledonia, which took place in February, 1857, at the house of M. Bérard, a naval administrative officer, who also fell. The natives met their deaths on that occasion by blows upon the head inflicted by iron hatchets derived from Europe. A calvarium among these New Caledonian skulls presents the remarkable anomaly of having a suture running almost horizontally through the whole extent of the left parietal bone, from the coronal to the lambdoidal suture, and dividing it into two nearly equal halves. This anomalous calvarium of a man of eighteen or twenty years of age is described, and also figured in two aspects in the Bulletin of the Linnæan Society of Normandy,‡ vol. x. In this note M. Eudes-Deslongchamps says, that he does not know "any example of a suture placed in the midst of the parietal, extending from that which unites this bone to the frontal to that with which it meets the occipital, or the lambdoidal suture, passing

* Read before the Anthropological Institute, April 3rd, 1871.

† "Intorno alle Suture Soprannumerarie del Cranio Humano e su quelle specialmente delle Ossa Parietali." Bologna, 1867. 1 Tavola. 4to.

‡ "Note sur une Suture insolite, partageant en deux moitiés à peu près égales le parietal gauche d'une tête humaine." Par M. Eudes-Deslongchamps. Caen, 1866.

over the parietal boss itself." Dr. Eudes-Deslongchamps is inclined to regard this unusual suture of the left parietal in the light of an instance of the occurrence of a Wormian bone, and thinks it probable that the skulls of New Caledonians are particularly subject to the development of Wormians.

In reply to the opinion of M. Eudes-Deslongchamps, and to illustrate the subject of supernumerary sutures of the cranium, the learned anatomist of Bologna points out that such an unusual suture in this bone has been described by different anatomists, of whom he names Portal, J. F. Meckel, and E. E. Weber. These are writers of the present century or the latter end of the last, but Dr. Calori further shows that the older anatomists were fully aware of the occasional occurrence of such a suture, as it is mentioned by Tarin and Van Doeveren, and it has been known to anatomists more than a century, and described or figured by Sue, Aurivilliers, Voigtel, Meckel, and Soemmerring. After thus correcting the notion of M. Eudes-Deslongchamps, Professor Calori proceeds to describe, at some length and with care, the small prognathous skull of an Italian woman of thirty-seven years of age, which came into his hands in 1845. Suffice it to say that this cranium presents an anomalous suture running through each of the parietals lengthwise. This supernumerary suture is not symmetrical on the two sides, but begins at a much higher point in the coronal suture, and terminates at a much lower point in the lambdoidal suture on the right side than on the left; still, in both parietals it passes across the bone from its anterior frontal edge to its posterior or occipital edge. This remarkable skull, presenting such a singular example of supernumerary sutures, is delineated in Dr. Calori's memoir in four aspects, presenting a view of each side, and of its vertex, and a posterior view. The correction of this error of Dr. Eudes-Deslongchamps is performed in a graceful manner.

II. The next memoir of Dr. Luigi Calori to which we may direct attention, is a Letter addressed to Professor Giustiniano Nicolucci, "On Posterior Occipital and Interparietal Wormian Bones in European Skulls and those of the lateral Fontanelles in the Skull of a Negro."* This essay took its rise from a photograph of a Greek skull from Zante, which was sent to the author by Dr. Nicolucci, and which presented a most remarkable Wormian in the lambdoid angle. Dr. Nicolucci had invited the opinion of Calori upon this unusual bone. This bone, he says, is commonly known under the denomination of *os triquetrum*, the three cornered or triangular Wormian of the posterior fontanelle, and has also been called *os epistale*. Riolan and Olaus Wormius, from whom the small ossicles of the sutures are wrongfully named, attributed their discovery to G. Guinterus. But the "*ossiculum verticis triangulare*" of Guinterus is not the occipital Wormian. It is one situated in the anterior fontanelle where the

* "De' Wormiani occipitali ed interparietali posteriori dei cranii nostrali e di quelli delle fontanelle laterali ne' cranii di Negro." Lettera responsiva del Prof. Luigi Calori al celebre craniologo Prof. Giustiniano Nicolucci. 1868. 4to.

sutures meet, that is, where the sagittal joins the coronal suture, and was denominated *os anti-epilepticum*, which, if confidence is to be placed in Paracelsus, is a "divinum remedium" against epilepsy, that is, when administered as a medicine.* This presumed specific for the Falling Sickness should be of the size of a kreutzer, a German coin, but is figured of a triangular form. Professor Calori mentions many anatomists who have treated of epactal bones, and speaks of Fischer, whose work published at Moscow, in 1811, has the title "De osse epactali seu Goethiano," from the poet Goethe having written letters to Loder and Soemmerring upon these bones.†

Dr. Calori next proceeds to describe the posterior Wormians observed in the crania in the Anatomical Museum at Bologna. These he has arranged under two heads: 1. *Occipital Wormians*, or those developed at the expense of the lambdoidal portion of the occipital; and, 2. *Wormian*, or *interparietal bones*, or those formed of a portion of the parietals, or in chief part of these bones and in a minor degree of the occipital (occipito-parietal). Of many of the skulls described the author gives some measurements, and in a lithographic plate posterior views of fifteen of these crania at a fourth of the superficial size, indicating the great variety of Wormians they present. He also points out those Wormians which resemble normal bones in the skulls of lower animals.‡

These described crania, singular for their Wormians, are generally large and capacious, and such, he adds, appears to be the case with the Greek skull from Zante. They are notable for a certain posterior broadness, and are chiefly brachycephalic.

Calori closes his memoir by the description of the skull of a handsome Negro, who was in the military band of the Austrian President of Bologna. This skull, of which a lithograph in profile of the natural size is added, has no occipital or interparietal Wormians, much less any in the anterior fontanelle, but it is distinguished by Wormians in the anterior lateral fontanelle, or between the great wing of the sphenoid, the anterior inferior angle of the parietal and the frontal, and also in the posterior lateral fontanelle, or between the posterior inferior angle of the parietal and the mastoid portion of the temporal. These anomalous ossicles are small, and do not correspond on the two sides. They are, however, considered sufficient to show that the Negro skull is usually distinguished by an absence of Wormians.

* This *os anti-epilepticum*, or Wormian ossicle, at the point of the approach of the sagittal suture to the frontal bone, is not often met with. If epilepsy were only curable by taking portions of this bone, it may be safely said that an exceedingly small number of cures could by any possibility be effected. It occurs in the skull of a Kanaka, No. 438, "Thesaurus Crani-orum", p. 331.

† Professor Calori passes over the memoir of Dr. Jacquart, "De la valeur de l'os épactale comme caractère de race en anthropologie." 1865.

‡ None of the skulls enumerated by Professor Calori are equal to some of those recorded, in which Wormians have had such an extraordinary prevalence. Professor E. J. Bonsdorff, of Helsingfors, describes and figures a human cranium, in which the left parietal was made up of sixteen, and the right parietal of eight Wormians. "Beskrifning af ett missbildadt cranium hos en Man." "Acta Societ. Sci. Fennicæ", tom. ii, p. 1283. 4to. 1847.

As already remarked, the crania with Wormians are chiefly brachycephalic. Hence, Dr. Calori inquires, whether there is a greater disposition in brachycephalic skulls for the formation of these bones. But the most brachycephalic of his Italian skulls, having a cephalic index which varies from 90 to 91, belonging to individuals of 30 to 40 years of age, have all their normal sutures open and manifest. Such a high degree of brachycephalism has something embryonal about it, and Professor Calori is disposed to distinguish it by the epithet *brachycephalia embryonale*. The brachycephalic crania of other nations have no Wormians in the usual positions, as far as the author is able to observe, but he possesses only three of these, a Slavic and a Swiss skull, and a third of a soldier named Zinganu. These are all synostotic crania, and are insufficient to support any theory.

The genesis of occipital and interparietal Wormians, as well as that of others, is easily to be understood. Being in broad crania that they present themselves, and in conjunction with this, in crania having a corresponding breadth of the membranous spaces of the sagittal suture and the posterior fontanelle, we have here the conditions most favourable for the production of these Wormians. In the lambdoidal region of the occipital there are two other causes which favour their formation. One rests upon the primitive mode of its composition. According to Kerckring, it is at first formed of at least four osseous germs; as was well known to J. F. Meckel, even by eight. As the extension of the ossification in any of these germs proceeds more slowly than in the others, for reasons not always imaginable, there will be a distinct supernumerary ossicle, an occipital Wormian. The other cause is the pushing backwards of the posterior lobes of the brain by their development and increase, thus removing the upper portion of that region of the occiput away from the parietals, and rendering it much more prominent, and, in truth, in the crania which present unusual occipital Wormians the occiput is found to project considerably in correspondence with these lobes.

Professor Calori concludes with a question: Does the presence of the Wormians described indicate a perfection, a superiority in the skull which presents them, or in the human cranium, or the contrary? Some might be inclined to believe it to be an index of superiority, especially as it is most frequently met with in broad and large crania. Notwithstanding, when it is recollected that occipital and interparietal Wormians, and in some cases those of the anterior fontanelle also, occur in brute animals, the first frequently, this might contradict the supposed indication of perfection, the supposed superiority, and point to a less perfection, an inferiority, or, as it is said, an animal tendency.

III. It was the received opinion that there are two cranial types in Italy, the brachycephalic and the dolichocephalic, the latter being proper to Italians of the present day, save in Liguria and Piedmont, where the brachycephalic type prevails. This was the doctrine indicated by Dr. G. Nicolucci in his important memoir of 1864, on "The

Ligurian race in Italy in Ancient and Modern Times.”* He maintained that the ancient Ligurians and their descendants in the north of Italy are *distinguished* from the rest of the Italians by their marked brachycephaly. Professor Calori being led to reflect upon this point, soon afterwards perceived first of all that the people of Bologna, not in agreement with this opinion, presented more brachycephalism than dolichocephalism. He did not, however, at once establish this position sufficiently by the measurement of an adequate number of heads. In his next memoir, that “On the Brachycephalic Type of the Italians of the present day,”† he gives the results of a further and fuller investigation of the subject.

It should be remarked in this place that the opinion prevailed among those who were most conversant with the matter, that the primitive inhabitants of Europe were brachycephalous, but that at a vastly remote period of time a dolichocephalous race from Asia invaded the continent, and finally established themselves upon European soil. These long-headed invaders,—the so-called Aryans,—came amongst the allophylian races of Europe as superiors. Into some regions, as Liguria, they scarcely penetrated. In others, they subdued the aborigines, destroyed many, reduced them to servitude, and, to some extent, eventually mingled with them, so as to introduce some degree of dolichocephalism into the population. So that if this hypothesis were correct, the degree of brachycephalism would be commensurate with the purity of aboriginal blood, and the mixture of dolichocephalism, the indication of the extent to which the higher Aryan race had replaced the earlier allophylians.

The speedily-obtained result of Professor Calori's observations was that brachycephalism is very prevalent among the Bolognese population. The author has tabulated his measurements of Bolognese skulls. In Table I he gives the measurements of 100 heads of adult Bolognese men. The examination of this table shows that 76 of these are brachycephalic, or have a cephalic index of 80 or more; 19 are orthocephalic, or have an index from 74 to 80; and only 5 dolichocephalic, with an index less than 74. Table II likewise gives the measurements of 100 skulls of adult Bolognese, one half of men, the other half of women. The results of this table are not less remarkable: 79 are brachycephali, 16 orthocephali, and but 5 dolichocephali. The next, Table III, is much larger, and embraces the dimensions of 853 heads of the population of Emilia, a division of Italy, which includes the former Legations of Ferrara, Ravenna, and Forlì, as well as the former Dukedoms of Modena and Parma: this is the chief part of northern Italy. Of these 853 heads, 733 are brachycephalous, 111 orthocephalous, and only 9 dolichocephalous. Table IV gives the measurements of 254 heads of people of the late Lombardo-Venetian kingdom, and of the Italian Tyrol. These again present

* “La Stirpe Ligure in Italia ne' tempi antichi e ne' moderni”, per Giustino Nicolucci. 1864. 4to. 7 Tables.

† “Del Tipo Brachicefalo negli Italiani odierni”, memoria del Prof. Cav. Luigi Calori. 1868. 4to.

similar results, for 230 are brachycephalic, 23 orthocephalic, and but one truly dolichocephalic. In this case, and it is pretty much the same in the preceding tables, there are 10 brachycephali to one dolichocephalous person. In a population of this kind Professor Welcker's division of orthocephali seems to be superfluous. The older and simpler division into two classes, brachycephali, where the index is 80 or more, and dolichocephali, where the index is less than 80, appears best.

Before we proceed to the next Tables of more southern districts of Italy, in which the proportion of brachycephalism decreases, let us pause. The Tables already given prove that brachycephaly prevails in an extraordinary degree in northern Italy over a greater extent of country than the ancient Liguria and Piedmont, which Nicolucci claimed for it. In the arrangement of nations by Retzius, according to the form of the head, he included the Italians among his brachycephali, and the old Romans and their descendants among his dolichocephali.* Dr. Weisbach, in his accurate work upon the skull-forms of the Austrian peoples, pointed out that the majority of the Italian skulls in his collection, from the population of the then Austrian divisions of Italy, were brachycephalic; the proportion was 17 to 10.† The investigations of Professor Calori show in northern Italy a much higher proportion of brachycephali. A few years ago a discussion, instigated by the late Mr. Crawford, took place at the Society of Antiquaries about the value of skull-forms, when Professor Huxley pointed out the great extension of definite forms, dolichocephalic and brachycephalic, in certain wide spread races. He said, "in the south of Germany, and thence eastward to Central Asia, including the whole Central Asian area, we shall find, as a general rule, a broad type of skull predominating."‡ Had Professor Huxley been aware of the fact, he might have pointed with even more precision to Northern Italy for such a characteristic. Whatever may be the meaning of it, Professor Calori has proved the very great prevalence of brachycephaly in northern Italy.

The next of Professor Calori's Tables (v) refers to the population of a country a little further south—Tuscany—in which dolichocephaly increases.

In 213 heads 34 are brachycephalous, 59 orthocephalous, and 20 dolichocephalous, or, using the earlier division, 134 brachycephalous and 79 dolichocephalous. This still shows a large predominance of broad heads. In Table vi the measurements are taken from the heads of 377 inhabitants of the more eastern part of Italy, extending to the Adriatic. Among these 265 are brachycephalic, 105 orthocephalic, and but 7 true dolichocephali. If the two latter are put together, there will still be more than double the number of brachycephali.

* "Ethnologische Schriften." P. 164.

† "Beiträge zur Kenntniss der Schädelformen österreichischen Völker." P. 76.

‡ "Proceedings of the Society of Antiquaries", vol. iii, p. 284. 2nd series.

Table VII embraces the population of the actual (now, happily, late) Pontifical State. It includes the heads of 200 persons. Of these 52 are brachycephalic, 100 orthocephalic, and 48 dolichocephalic. In other terms, there are three dolichocephali to one brachycephalus—a very different proportion from any that we have hitherto met with among the people of Italy. Table VIII refers to the population of the ex-kingdom of Naples. Of the 363 people in this Table, 131 are brachycephalic, 169 orthocephalic, and 63 dolichocephalic, *i.e.*, nearly twice as many with long heads as with broad ones. The last Table presents a still more striking tendency in the same direction, although it embraces but a few persons measured. They are inhabitants of the Island of Sardinia, and are 32 in number. Of these only 2 are brachycephalous, 14 orthocephalous, and 16 dolichocephalous.

These numerous valuable Tables show that Dr. Nicolucci was not quite correct in restraining brachycephalism to the Ligurians and their descendants, nor in regarding the rest of the Italians as dolichocephalous. Still, he evidently had some grounds for his opinion, inasmuch as there is clearly an extreme proportion of short broad heads in Northern Italy, which apparently diminishes as we travel southwards; in Sardinia the dolichocephalic type vastly predominates.

Professor Calori has acted with great judgment in undertaking this laborious measurement of Italian skulls and heads, by which the real value of opinions is tested. What bearing the results will have upon the Aryan hypothesis we cannot tell; whether its upholders will be satisfied with a much smaller admixture of Aryan blood in a large portion of Italy, and a much more extended and prevalent remnant of aboriginal strength. We have no doubt, however, that the supporters of the hypothesis will explain the facts to their own satisfaction.

The number of those measured in the nine Tables of Professor Calori, without reckoning the women, amounts to 2442. Of these, 1665 are brachycephalic and 777 dolichocephalic, diffused unequally in the various regions of Italy. The mean cephalic index in the brachycephali is .84, and that of the dolichocephali, .77.

Professor Calori's conclusions, derived from the investigations of this important memoir, may be briefly stated. The proposition that the Italian type of the present day is dolichocephalic, save in Liguria and Piedmont, where the brachycephalic type predominates, is not valid. It would be more correct to say that in Italy the two types of brachycephali and dolichocephali occur everywhere, but that the first seems to predominate, so that the brachycephali might be admitted to be to the dolichocephali as about 2:1; or, according to the measurements, there are 68 brachycephali in 100 persons.

The two types are not equally distributed in the different provinces or regions of Italy. Sometimes the one prevails in a region, sometimes the other. Thus brachycephalism predominates in the north and in the centre of Italy, but it is exceeded by dolichocephalism in the Roman States, the ex-kingdom of Naples, and in Sardinia.

The brachycephali as well as the dolichocephali are generally or-

thognathous, and also more frequently large than small; the cubic capacity of the crania of the large brachycephali exceeds that of the large dolichocephali.

According to Professor Calori, the bearing which these conclusions must have upon the Aryan hypothesis of the introduction of a long-headed race into Italy at a vastly remote period, and the mode in which this is to be reconciled to the facts observed, cannot be fully elucidated until not only the skulls of these two types and their chief varieties are thoroughly studied, but also and especially their brains, in order to discover whether there are any differences in some group of the cerebral convolutions, in their extension, as well as in the superficies of the various lobes and the internal cerebral mass, not omitting the genuine form of this mass, its weight, and all that relates to an exact appreciation of the organ of the two types.

IV. It is in some measure to the solution of this difficult and complex problem that Professor Calori's latest memoir is devoted. This is entitled "Upon the Brain in the two Italian types Brachycephalic and Dolichocephalic,"* and is issued in a form of unusual magnificence, in large folio, with an atlas of eight lithographic tables.

The work is divided into four parts. Article 1, On the Figure of the Brain in the two above-mentioned types; Article 2, The Cerebral Convolutions, their various aspect, their topography, and their variety or anomalies; Article 3, On the Weight of the Brain in the two Italian types, brachycephalic and dolichocephalic; Article 4, On the extension of the Cerebral Superficies in the two Italian types. It also contains many Tables. The second article is the longest, and goes into a thorough examination of the cerebral convolutions and the varieties they present.

Article 1 commences with an historical abstract of the opinions of celebrated Italian anatomists and physiognomists upon the form of the head and brain among Italians, in which it is shown that they received three figures of the brain—the oval, proper to the civil population, the rotund or subrotund, and the elliptical—three figures which are indicated by the authors cited, and which belong to the human race in general.

Here Dr. Calori is led to allude to the opinion, which has been often maintained even by good anatomists, that the head may have certain forms impressed upon it when newly born by the manipulation of midwives. Blumenbach, when describing his round skull of a Turk, quotes Vesalius, who asserts that certain races have the globular form of skull from this cause, as the Genoese, Greeks, and Turks. It appears surprising that any one acquainted with the elastic properties of the head in infants could be led to attribute any deformative influence to transient pressure. In order to give a permanent change of form continuous constriction or pressure is absolutely necessary, and all races who modify the shape of the skull designedly keep the infant in a state of imprisonment and compression for

* "Del Cervello nei due Tipi Brachicefalo e Dolicocefalo Italiani." 1870. Folio. Con un Atlante di otto Tavole litografiche.

months after birth ; as a general rule, for the first twelve months. We now know that the fœtus in utero has an asymmetrical brain and skull ;* and the effects of placing the head in a certain position during repose and sleep are well understood in producing deformation,† still, transient pressure cannot be accredited with any results whatever. Professor Calori is able to quote the assertion of Professor Federico Bozi, his colleague, who lived a long time at Constantinople, following the practice of medicine, attended many accouchements, and treated a large number of children. Professor Bozi says that it was formerly the custom among the Turks to attempt to fashion the shape of the head, but such practice is now abandoned. The midwives would not now be permitted to perform any operation upon the head.

The learned Scaliger, the first of the name, attributed to the Genoese a form of cranium produced by artificial deformation, and that of the most improbable character, by flattening the sides of the head. This deformation received the name of *Thersitic*, from the ugly Thersites, who was at the siege of Troy. Scaliger ascribed this practice to the Saracens, the asserted progenitors of the Genoese, and says that it had been in vogue so long, that the Genoese were then born of the true shape without any artificial interference—a palpable absurdity. Such flattening of the sides of the head, not produced by art, but by nature, Professor Calori says, is very rare in Italy. He has seen but one instance of it, which was in a soldier of the line ; he was not a Genoese. The author says he has examined many Genoese, and they were all brachycephalic.

Vesalius, speaking of long crania, or the dolichocephali of Retzius, seems to be inclined to regard them as not natural, but artificial ; produced by lying sidewise upon the temples. Still the Sardinians, who are remarkable for their dolichocephalism, certainly do not use any artificial means to produce it. Dolichocephalism is native among the Sardinians, as brachycephalism is in other parts of Italy. And, in fact, there are continually seen born brachycephalic and dolichocephalic children, who grow up and ultimately become adults. The precocious synostosis of the occipito-sphenoidal synchondrosis is not observed to be the occasion of the brachycephaly, or on the contrary. Synostosis, where it occurs, is merely a concomitant. V. Malacarne, an Italian anatomist, who devoted such long and laborious study to the brain, in the enumeration of the figures of the cranium and the brain, names only three, which is in agreement with Professor Calori's observation. These are the round, the oval, or almost oval, and the elliptical. These three cranial or cerebral figures are those most frequently observed in Italy, and are those which the various races of the human species present. A form truly round, conformably with the epithet, is not a common contingency. The author has only once seen an example, and that was in the skull of a lunatic in the Bologna

* "On the Asymmetry of the Body ('Axedeel') of the Human Skeleton." By Dr. A. Stadfeldt. *Förhandlingar vid de Skandinaviska Naturforskarnes Nioude Mötte i Stockholm.* 1863.

† "De Asymmetrie der Javaanische Schedels." Door Prof. H. Halbertsma.

Museum. As to the elliptical figure of the brain, he says that he has not really met with it, except in the dolichocephalic type; an example of which he has depicted in Table II, fig. 6, in which the brain represented is a perfect ellipsis in its outline.

Professor Calori has given great attention to the difficult matter of depicting the brain with exactness, so as to preserve its true and natural figure. He considers the methods adopted by preceding anatomists, particularly Gratiolet, and points out the imperfections in these methods; and also describes his own experiments in seeking a better process. He then gives an account of the plan he finally fixed upon, which demands a great deal of care and time in the manipulation. He regards the temperate seasons of spring and of autumn as the proper times for the operation, but there are many other requisites to success. The brain must not be soft, and its freshness is essential. He avoids the escape of the humours in decapitation. He then opens the cavity of the skull circularly, raises the calotte and the membranes with celerity, and immediately covers the exposed surface with liquid plaster of Paris. As soon as this is set, he turns the head upside down, raises the base of the skull, divides with a stroke the optic nerves, then the infundibulum, the internal carotid, and the cerebral crura near the tuber annulare. The base of the brain being thus exposed, is speedily deprived of the arachnoid and pia mater, and then covered with liquid plaster; so that the brain is thus enclosed as if it were between the two valves of a bivalve shell. By immersing this form in water for about twenty minutes, it will come off the surface of the brain without sticking, when the organ may be weighed accurately, and immersed in alcohol for preservation, and for comparison with the cast made from the form. The cerebellum is treated in a similar manner; and afterwards an accurate plaster cast is taken of the interior of the skull. The object of these proceedings is to be able to compare and to study one with the other, and to correct and complete any defective portion. When these things are all successfully accomplished, a good artist will be able to produce a faithful image of the brain. For the atlas appended to this memoir, the author has been compelled to repeat the operation described a great number of times.

In this part of his work, Professor Calori gives some account of his Plates. The magnificent Atlas consists of eight large folio Tables, and contains thirty-three figures, all finely lithographed, of the size of nature. The object is to represent Italian brachycephalic and dolichocephalic brains completely. The different views are vertical (*norma verticalis*) and lateral, to which are added in the last Plate four views of the cerebral hemispheres seen from the inside, when the brain is bisected in the median line. The author does not confine himself to one instance of either section of brains, either brachycephalic or dolichocephalic, but gives figures of large brains, middle-sized brains, and small brains, both brachycephalic and dolichocephalic. In this way, for example, there are no less than twelve vertical views of different brains. He remarks that an inspector of his Atlas

will at once see in the first three tables a want of symmetry in the two sides of the brain. This is in agreement with the asymmetry of the two halves of the body, and is entirely in concord with nature. Those who have given figures of the upper surface of the brain have generally represented it symmetrically. It may also be added that he presents figures of the brains of Italians, both of men and women, from different parts of Italy, and he has been careful to have the convolutions depicted with great accuracy. Some of the brains delineated are intended to represent the oval figure of the organ in both brachycephali and dolichocephali; others the rotund form of the brain, and, lastly, others the elliptical shape.

It should be noted as one of the results of Professor Calori's investigation, that the brains of large dolichocephali are not found to be so heavy as those of large brachycephali.

At the conclusion of this Article, Professor Calori refers to a fine and interesting anomaly in the figure of a brain of the dolichocephalic series which has fallen into his hands. It is the brain of a youth of fourteen years of age, is of extraordinary size, and the subject to which it belonged had intellectual and moral gifts above the common. It is a scaphoid brain, and is of great importance, since the principal writers upon scaphocephalism, as Von Baer and Barnard Davis, have confined themselves to skulls, since they had not any brains exhibiting this anomaly within their reach. Antonio, who came to be surnamed "long head", was born in the province of Como upon Lake Maggiore. He was docile, amiable, diligent, and, besides admired for the quickness of his talents, the readiness of his discourse, and such prudence in his answers and opinions as many of the old men of his country did not display. He was an orphan. Neither his parents, his sisters, nor his maternal uncles, who took care of him, exhibited in their heads any similar appearance, so that it could not be regarded as hereditary. He was born so, and grew up so, was slender in bulk rather than otherwise, and not tall of his age. In the spring of 1866 he abandoned his native soil to ramble about with his uncles as a wandering musician. The party arrived at Milan. Here they felt themselves in great difficulties, when Antonio undertook to instruct the others, and played correctly. They left Milan and went to Bologna, where Antonio died in the hospital, in March, 1868. Of this remarkable scaphoid brain Professor Calori gives different figures. Table iii, fig. 12, represents a vertical view of the brain; Table vi, fig. 24, a profile view; Table vii, fig. 26, affords a front view of the brain; fig. 27, a back view; fig. 28 a view of the base; and Table viii, fig. 33, is a section in the median line showing the inner surface of one hemisphere. The author has done well to illustrate this scaphoid brain so fully, as it is of great interest, and the first instance of the representation of such an anomalous organ. It is a brain remarkable for its unusual length, narrowness, and height, and from being produced in the sagittal region into an elevated ridge.

Article 2. "On the Cerebral convolutions, their Different Aspect, their Topography, their Variety, or Anomalies," extends over the

larger portion of this valuable memoir. Its subjects are examined and explained in the same able manner as the rest of the treatise, but, in the absence of the beautiful plates, scarcely admit of any analysis. In the introductory remarks the claims of our English anatomist, Willis, are established for the discovery of the longitudinal, antero-posterior, and transverse directions of these convolutions, generally attributed to Leuret. The author also speaks highly and very justly of the early labours of Rolando, the Italian anatomist, in this department. This article goes on to the description of the convolutions and their varieties at considerable length, and is perhaps one of the most complete treatises upon the subject existing. Although Professor Calori points out in the course of his investigations numerous varieties in the convolutions (he does this in a general way), we do not see that he indicates any of them as belonging particularly to the brachycephalic or to the dolichocephalic brain, which we might have expected that he would have done had he found such peculiarities to exist. As a final conclusion, he says, that the varieties he has met with in the circumvolutions are not so numerous as might have been expected. They are, in truth, much less numerous than varieties in the muscles, vessels, and nerves. This greater uniformity of structure he attributes to the importance of the functions of the convolutions themselves.

Article 3 is "On the Weight of the Brain in the Two Brachycephalic and Dolichocephalic Italian Types." This is a very valuable contribution to the great subject of the weight of the brain, especially as the observations of Professor Calori are the results of actual testing the weights of brains themselves in the balances. By the assistance of his friends in different parts of Italy, he has been enabled to extend his researches to four hundred and twenty-one brains of different individuals, the greater part of men. His first point was to measure the longitudinal and transverse diameters of the skulls when deprived of their soft parts, in order to determine the cephalic indices, which he divided into dolichocephalic when they fell below .80, and brachycephalic when of .80 or upwards. He then opened the cranium, received the brain upon a handkerchief, divested it of its meninges, divided the crura cerebri immediately before the tuber annulare, and weighed the hemispheres by themselves, next the cerebellum, and, lastly, the medulla oblongata with the tuber annulare. In those observations in which he could ascertain the weight of the whole body as well as that of the brain, he availed himself of the opportunity. He found that the weight of the brain in adult men stands to that of the body as 1 : 46 or 50, and in adult women as 1 : 44 or 48. The weight of the body in the first was 60,000 to 65,000 grammes, and that of the second 50,000 to 55,000 grammes. This result differs materially from that stated in Cuvier's Lectures on Comparative Anatomy, which is 1 : 30 or 35. As to any correspondence of stature to weight of brain, he has not been able to determine any. Men of high stature have sometimes had a large brain, and *vice versa*. It was the same in the case of women. Professor Calori gives the important results of

his researches in four tables, all of which refer to the brains of adults. The first contains the weights of the brain in two hundred and one brachycephalic men; the second in a hundred and four dolichocephalic men; the third in seventy-two brachycephalic women; and the fourth in forty-four dolichocephalic women—making four hundred and one instances of brain weights carefully and precisely determined. He arranges his matter in these tables in a very instructive form, giving in separate and successive columns the age of each individual, the longitudinal diameter of the skull, its greatest transverse diameter, the cephalic index, the weight of the cerebral hemispheres, the weight of the cerebellum, the weight of the medulla oblongata with the tuber annulare, and, lastly, the weight of the entire encephalon. The general means deduced from these tables are as follow, in grammes:

IN BRACHYCEPHALIC MEN.			
Hemispheres.	Cerebellum.	Medulla and Tuber.	Encephalon.
1145	134	26	1305, or 46 oz.
IN DOLICHOCEPHALIC MEN.			
1122	134	26	1282, or 45 oz.
IN BRACHYCEPHALIC WOMEN.			
1004	123	23	1150, or 40·5 oz.
IN DOLICHOCEPHALIC WOMEN.			
992	121	23	1136, or 40 oz.

These results exhibit, in a striking manner, the greater weight of the brain in brachycephali, which has been already alluded to, and which may be safely asserted to have been first brought out by Professor Calori. It will be instructive to give the extreme weights of the brains enumerated in these tables. Among the 201 brachycephalic men the lightest brain weighed 1024 grammes (about thirty-six ounces), in a subject who was twenty-two years of age; the heaviest brain weighed 1542 grammes (rather more than fifty-four ounces), in a subject of thirty-three years of age. This is a difference between the two of 518 grammes, a little more than eighteen ounces, or upwards of a third of the weight of the heaviest brain. In the second table of 104 dolichocephalic brains of men the same discrepancy is observed. The lightest is 1088 grammes, a little more than thirty-eight ounces, age thirty-four years; and the heaviest is 1490 grammes, rather more than fifty-two ounces, age sixty-nine years; where the difference of weight between the two is 402 grammes, or above fourteen ounces. In table three, of seventy-two brachycephalic women, the lightest brain is 909 grammes, or thirty-two ounces, in a woman of seventy-seven years of age; the heaviest is 1312 grammes, or a little more than forty-six ounces, in a girl of nineteen, *i.e.*, a difference of 403 grammes, about fourteen ounces. In table four, among thirty dolichocephalic women, the lightest brain is 918 grammes, or more than thirty-two ounces, and the heaviest 1351 grammes, or nearly forty-eight ounces, showing a difference between the two of 433 grammes, or above fifteen ounces. These differences prove a great range of diversity in brain weights among the same people. The weights of Italian brains have been previously determined by Weisbach, Bar-

nard Davis, Nicolucci and Gaddi, and our author shows that there is a general agreement among these observers with the results he has obtained; the discrepancies are easily explained.

The last division of Professor Calori's memoir is Article 4, *On the extension of the Cerebral Superficies in the two Italian Brachycephalic and Dolichocephalic Types*. This subject carries us back to a memoir of Dr. Hermann Wagner, of Gotha, who decided to measure the superficies of the different lobes of the brain by applying gold leaf to the surface.* He adopted this method with the brains of Gauss, Fuchs, a woman aged twenty-nine years, and Krebs, all which brains had been depicted with great care and accuracy by his late excellent father, Professor Rudolph Wagner.† Dr. Calori's method is different from that of Hermann Wagner, and in some respects superior to it. The result he gives in square millimetres in two large tables.

We have already spoken of the grand folio Atlas of lithographic Plates of Brains, which are of great beauty, and bear unmistakable marks of fidelity to nature. It is highly creditable to its zeal in the promotion of science to the learned body which has issued it—the Academy of Sciences of the Institute of Bologna.

It would have been impossible for the late excellent Professor Retzius, who distinguished the different races of men by their dolichocephalic and brachycephalic skulls, to realise the fact of the issue of this splendid and learned work upon the heart of the matter, dolichocephalic and brachycephalic brains. Retzius saw the importance of these cardinal forms, still only in a somewhat crude manner. Calori, whilst showing that neither the one nor the other is exclusively proper to Italians, but that both belong to them in different proportions in different regions of Italy, where no doubt race is diversified, has the rare merit of having followed out the inquiry with great zeal and skill by determining the specific characters of brachycephalic and dolichocephalic Italian brains. No more laborious or substantial contribution to the anatomical division of anthropology has been made for many years, and certainly none more deserving of a welcome reception by the cultivators of the science. It will take a high place, far above the speculative dissertations of the age.

J. BARNARD DAVIS.

IL BRAHUI: Studio di Etnologia Linguistica. Di Felice Finzi. Firenze: 1870.

THIS, a reprint from the Bulletin of the Italian Geographical Society, is a learned essay by Mr. Finzi on that remarkable isolated language, the Brahui, of the grammar of which he gives a very close analysis. This language is isolated in Beloochistan among an Indo-European group in Leach's vocabularies. Lassen detected affinities to the Dravidian; and Dr. Latham, in "Man and his Migrations" (p. 225), made

* "Maasbestimmungen der Oberfläche des grossen Gehirns." Von Dr. H. Wagner. 1864. 4to.

† "Ueber die typischen Verschiedenheiten der Windungen der Hemisphären und über die Lehre vom Hirngewicht." Mit 6 Kupfertafeln. 1860. 4to.

these known. Caldwell, in his *Dravidian Grammar* (p. 25), proves that there is Tamil in the Brahui; but he says the great majority of the words in Brahui are not Tamil. M. Finzi adds little to our knowledge, and adopts the view that Brahui is partially Dravidian, but that it contains elements allied to the Naga (Teŋsa, Namsang, Mithan, Kari), Bodo, Garo, Munniporee, Sibsaurgor Niri, Kooch Behar, and Deori Chutia, of the north-east.

With regard to some of these supposed affinities, they disappear on wider examination. Thus, the Deoria Chutia, which is unclassified, is allied with another isolated member, the Tanguhti, and thereby with the Tibetan.

The discrepancies of opinion with regard to the exact relations of the Brahui to the Dravidian group arise from an erroneous view of the distribution of that group. This is partly attributable to a strange fancy for what are called Mongol affinities, and which have driven observers to seek them particularly in Ugro-Tartar, and of these Turkish. A wider investigation will bring into the Dravidian group two great members. The first is the eastern, including the Japanese, Loochoo, Korean, and some others more remote. The second, or western, member is the unclassified Basque language. Its elements are derived from the Dravidian, and, where divergent, from the Kolarian group, showing that the departure of the Iberians was from India. If Japanese and Basque are from the same stock, then there ought to be some coincidences and resemblances, and there are, which establish a mode of proof. The practical value of these facts philologically is, to furnish us with materials for comparative grammars respectively of Japanese and Basque, and better materials for the Dravidian. Ethnologically, we have an Indian departure for the Iberians and for their comparative philology, and for the Brahui the same, but with indications of a much later migration.

HYDE CLARKE.

ARCHIVIO PER L'ANTROPOLOGIA E LA ETNOLOGIA.

UNDER this title a new quarterly journal has been started at Florence, the anthropological part being edited by Dr. P. Mantegazza, and the ethnological part by Dr. F. Finzi. The first number opens with a general introductory article by Finzi, followed by a psychological paper by Dr. Herzen.

Professor Mantegazza contributes a memoir on the Cephalo-spinal Index in Man and in the Anthropoid Apes, and the method of its determination. By the term *cephalo-spinal index*, the author designates the ratio which the area of the occipital foramen magnum bears to the cranial capacity. To measure accurately the area of an irregularly-shaped aperture is, however, a task of some difficulty, and Mantegazza was at first content with determining only the circumference of the aperture. In measuring sixty-eight human crania, the greatest circumference of the occipital foramen observed was 119 millimètres (4·7 inches), and the least 83 millimètres (3·3 inches). By comparing the circumference of the foramen with the capacity of the cranium, the author obtains a ratio which he believes to be of value as a constant

specific character. Thus, in a young ourang the ratio was 22·37, and in the adult ourang, 20·97; while in an adult male gorilla it was 18·94; in *Hylobates gracilis*, 53·43; and in an Australian woman, 9·7. The average in man is between 6 and 7.

It is evident, however, that the circumference of the foramen is not proportional to the area, and hence the foregoing relations are founded on data not altogether satisfactory. Nor can the area be deduced from the circumference by a simple calculation, for the foramen is neither a true circle nor a true ellipse. Hence Mantegazza has devised the following mechanical mode of approximately measuring the area without calculation. He introduces into the cavity rectangular prisms of wood having transverse sections of known superficies. This done, he patiently fills up the irregular space between the sides of the prisms and the margin of the foramen by thin iron wires; and, when the aperture is completely filled, transfers these wires to a small instrument furnished with a scale by which the area of the transverse section of the bundle of wires is immediately measured. This quantity, added to the space occupied by the prisms, of course gives, within a small error, the area of the occipital foramen. This area stands to the cranial capacity in the ratio of ten to the cephalo-spinal index. Mantegazza has applied this mode of measurement to one hundred human crania of different races, ancient and modern, and to eight skulls of anthropomorphous apes. The mean area of the foramen in the human crania was 717·03 sq. mm. (1·111 sq. in.); the lowest observed being 530 sq. mm. (0·821 sq. in.), in the cranium of an ancient Peruvian woman; whilst the greatest area amounted to 1,000 sq. mm. (1·55 sq. in.), and was found in the cranium of an Italian assassin who had been executed. The mean area of the foramen in forty crania of females was 691·7 sq. mm. (1·072 sq. in.); whilst that of sixty crania of males reached 733·9 sq. mm. (1·137 sq. in.); hence the occipital foramen is, on an average, smaller in the female than in the male. The mean cephalo-spinal index of one hundred human crania was 19·19; the mean of the forty crania of females being 18·48, and that of sixty crania of males 19·65. The lowest index (13·49) was found in a female Florentine, whilst the highest (25·94) occurred in a male Feejeean.

Prof. Boccardo contributes to the same number of the "Archivio," a memoir on the causes determining the relative number of the two sexes in the statistics of birth; whilst Dr. E. H. Giglio publishes the first part of an elaborate communication on the Tasmanians. The latter paper is illustrated by some excellent lithographic portraits of three Tasmanians, which will immediately be recognised by those who are familiar with Mr. Bonwick's writings on this subject.

F. W. R.

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE
OF
GREAT BRITAIN AND IRELAND.

MAY 1ST, 1871.

PROFESSOR BUSK, F.R.S., *Vice-President, in the Chair.*

THE minutes of the last meeting were read and confirmed.

The following new members were announced: EDWARD PALMER, Esq.; and HENRY WALLIS, Esq., of Mangalore, Madras Presidency.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the SOCIETY.—Mittheilungen der Anthropologischen Gesellschaft in Wien, i Band, No. 7.

From the AUTHOR.—The True Story of Louis Napoleon's Life. S. Phillips Day.

From the SOCIETY.—Proceedings of the Royal Society, vol. xix, No. 127.

From the EDITOR.—Nature, to date.

From the AUTHOR.—Dynamics of Nerve and Muscle. C. B. Radcliffe, M.D.

From the INSTITUTE.—Journal of the Royal United Service Institute.

From the AUTHOR.—On Aphasia, or Loss of Speech. F. Bateman, M.D.

From the AUTHOR.—Loss of Speech. R. Dunn, F.R.C.S.

From the AUTHOR.—Observations on the Phenomena of Life and Mind. R. Dunn, F.R.C.S.

From the AUTHOR.—Examination of Gillespie. D. S. Barrett.

From the ASSOCIATION.—Journal of the Royal Historical and Archaeological Association of Ireland, No. 5.

From the AUTHOR.—Ethnology of Hyderabad, in the Dekhan. E. Balfour, L.R.C.P.

The following paper was then read:

VOL. I.

K

On the STONE MONUMENTS of the KHASI HILL TRIBES, and on some of the Peculiar Rites and Customs of the People. By Major H. H. GODWIN-AUSTEN, F.R.G.S., Deputy Superintendent Topographical Survey of India.

THE increasing interest that is taken at the present day in ethnology and the history of man in past and present ages, more particularly in the customs of semi-civilised races in distant quarters of the world as compared with the state of those races who dwelt in Europe in early historic times, has led me to put together the information I obtained regarding the people of the Khāsi Hill tracts. Their customs are peculiar, and the fact that they are among the very few who erect at the present day monolithic monuments, is alone of great interest.

This has not escaped the attention of different travellers, officers of the Indian service and others who have visited that quarter of the Bengal Presidency, and from time to time papers have been published; these are scattered through a number of periodicals, and in no case is a complete record of these Hill people to be found.

Notices on the Garos and Khāsis, as well as many of the other tribes on the north-eastern frontier of Bengal, are generally very short, in some instances mislead, and in some cases do the people, savages though they be, but little justice; in truth, there is very much to admire in these Hill people, they are in many ways, socially and physically, far above their Bengālī neighbours of the plains; intercourse with them is, in consequence, much pleasanter, easier, and has far greater interest; innate honesty and truth in their manners of dealing often crop out, more especially in villages well within the hills, where contact with the people of the plains is of rare occurrence.

I shall notice the best of these papers having reference to tribes inhabiting the range of hills running west to east, south of Assam, from the sharp southern bend of the Brahmaputra up to the Kopili and Diyung river, in long. 92 deg. 45 min., a length of some one hundred and sixty-five miles.

In the "Asiatic Researches," vol. iii, published so far back as 1792, is a very interesting paper on the Gāros, by Mr. John Eliot; his travels, however, did not extend so far to the east as the Khāσίας.

The Rev. A. B. Lish, a missionary of Cherra Poonjee, published an account of the Khāσίας in the "Calcutta Christian Observer" for 1838, he gives an account of their mode of breaking eggs for omens, etc.

Neither in M'Cosh's "Topography of Assam," or in Robinson's "Assam," is any newer or better information afforded concerning

the Gāro or Khāsi than is to be found in earlier writers, and no allusion is made to the stone monuments. The first contains a very exaggerated and by no means faithful account of both the Khāsi and Gāro, and the latter has copied Elliott's descriptions.

Dr. Hooker, in his "*Himalayan Journals*," gives some good drawings of the stone monuments—alludes briefly to their form, and the habits of the people. Dr. Hooker also alluded to the Khāsias at the meeting of the British Association at Norwich in 1868; thus attention was drawn to them in a prominent manner. A paper was written shortly after this by Lieut. E. N. Steel, R.A., who had been quartered for some time at Cherra Poonjee, and published in the "*Transactions of the Ethnological Society*," vol. vii.

The latest paper that we have on the Khāsias is one published in the "*Ausland*" of last year, by — Schlagintweit, yet is not confined solely to the people, but treats of the meteorology of the district, and very briefly of the geology. The Gāros and Nāgas are also noticed. I hope to be able in a future paper to call attention to these people, and shall then allude to one or two paragraphs where I think M. Schlagintweit has been led into error. To one such error I would now refer. He says, "The Khassias are the most numerous and most powerful of the tribes inhabiting the part running from west to south (he must mean east) in this mountainous district, but it is also necessary to mention the two groups of Gārdos and Jaintias who are their neighbours in the south (he must mean the east) and the west. The grade of civilisation of the Gārdos and Jaintias is very low, etc., etc." Now, M. Schlagintweit must have been quite misinformed as regards the Jaintias, and he has evidently never been among them, or he would have known that the Jaintias, or more properly speaking, the Sintengs, are of the same stock as the Khāsīs, that the language is the same with some slight modification, and that their customs and religious rites are almost identical. In Cherra Poonjee itself there is a small hamlet of emigrants from the Jaintia side, and they are found living among the Khasias in the main village. Many of the clans in Cherra claim to have originally come, several generations back, from the side of Jawai.

M. Schlagintweit further on says:—"The want of all modesty in the grown-up people of these primitive races, to whom we apply the term savages, is very remarkable." With this statement I do not agree, and consider they have the feeling strongly developed, and are quite as particular about the exposure of their persons as the people of India proper. The Gāro wears the "Lungooti" quite as large as that worn by the lower classes in Bengal and N. W. Provinces, etc.,

etc., when employed at heavy labour. Very much more decent is it than the thin gauze-like cloth worn by even the better class of Baboo in Calcutta, which makes hardly any pretence of concealing the private parts. I can speak for the Gāro women being particularly quiet and modest in their demeanour; and the young men on reaching a certain age, and until they marry, live and take their meals apart in a large house constructed for them; this is always the largest in the village, and where strangers are put up. This custom mitigates strongly against "their want of modesty", so often advanced, and proves, if anything, an advanced state of morality.

Again, in speaking of the Khasis and the looseness of their family and domestic relations, which are somewhat easy, the frequent changing of wives is not so common as might be supposed, and in the remoter villages I should say very rare. There is a very strong force which militates against its frequent practice. The men of these tribes select their wives not for beauty and delicacy, but for their well-developed forms and hard-working qualities—those who can carry heavy loads throughout the day; and the more children she begets the better for the pair: they can cultivate as these grow up a larger area, and live in greater comfort.

In the *Calcutta Christian Observer*, March, 1852, is to be found one of the best papers on the Khāsis, by the Rev. W. Pryse, who was attached to the Welsh Mission working both at Cherra Poonjee and Sylhet. A very good article appears in the *Calcutta Review* for 1856, vol. 27, being a review of the "Geology of the Khāsi Hills, with Observations on the Meteorology and Ethnology of that District," by Thomas Oldham, Superintendent of the Geological Survey of India, a work containing much valuable and interesting matter. An Introduction to the Khāsia Language, by the Rev. W. Pryse, is also included in the above review.

The various ways in which the word Khāsi has been spelt by different writers, has no doubt puzzled many an European reader, and will be familiar no doubt to some in the form of Cossyah, Khassyah, Kasia, etc. The most correct has been adopted by the mission at Cherra Poonjee in their printed works in the language, and adopted in this paper.

They call themselves Ki Khāsi, and their country Ká Ri Khāsi;* and without going out of our way to seek for a derivation of this word, may it not be derived from the Hindustani "Ghāsi"—grassy: the whole of the upper lands being of this nature, in contradiction to the forest-clad valleys and slopes of the outer hills both north and south. The Khāsias never pro-

* Compare "Rhi", a mountain (Tibetan).

nounce the hard G ; and in all words of Hindustani origin this letter has the sound of K.

They are called by the tribes of Kúkis and Nágas on the west "Káro", the name they themselves have for the whole mass of hill people on their western side, the Gāros, though as we pass towards their confines, we find the names of local clans giving way to this general term which was not known to some of the villagers of West Nongstoin, who call the Gāros "Dékor."

The Gāro appellation for the Khāsis is "Dikkil" or "Digil"; and it was very interesting to find, after visiting the villages of both, that they mutually fear each other, and consequently border raids never occur. The Gāros owned that they feared the bow and arrow of their neighbour, a weapon they themselves are unacquainted with the use of.

The Khāsis always point to the east as the quarter from which they emigrated, but there is very little, if any, similarity with the languages of the people now occupying the hills on that side.

Before entering further on the subject matter of this paper, I must request my hearers or readers to remember that having no knowledge colloquially of the Khasi language, the information I give was obtained from natives who understood either English or Hindustani well. The greater part of the information was given me by a very intelligent man, a native inspector of schools in the district ; thus I hope that all errors that exist may be hereafter corrected by others who have been able to elucidate with greater exactness the meaning of their many different rites and superstitions.

Certainly the most striking objects of interest in the Khāsi Hills are the upright stone monuments that are to be seen all over the country ; these, set up by the wayside, or in the villages, more frequently cutting the sky on prominent hills, with the large slabs horizontally set before them, at once recall the Druidical remains of our own island, northern France, etc., and lead one to marvel at the similarity of the custom, and to inquire its origin and design. Many who visit those hills take it at once for granted that they are the graves of illustrious men, or, after a vain endeavour to get some information from the coolies about them, let the matter rest, or finally believe that the ashes of the dead, to whose memory the monoliths are erected, are buried under the flat kind of altar or dolmen seen in front.

It is always a very difficult matter to obtain information from semi-civilised people on such a subject as their religious rites, especially if the inquirer is ignorant of their language. A slight knowledge of Hindustani on the part of the Khasia villager, renders the attempt still more hopeless, and the information given quite erroneous.

The tall upright stones are called "Mao bynna", from "mao", a stone; "bynna", to make known, to be informed, literally a monument. They are also known by the term, "Mao shinran", the male stone, while the flat seat-like slab in front is called "Mao Kynthai", the female stone, representative of all life, being in pairs: My informant explained this by saying the monument would be imperfect without the flat stone or its female adjunct.

The ashes of the dead are never deposited under the horizontal slabs always to be seen in front of the upright sets, the monument having no connection with funeral obsequies whatever. The monument is purely one to perpetuate the memory of a person long deceased, who, as a spirit, has watched over or brought good fortune to a descendant, his family, or clan. Wealth or renown of the deceased has no connection with the size of the monument, which may be of any dimensions, from stones a foot or two and upward, but depends on the wealth of those who erect such mementos, and on the benefits the deceased has conferred after passing into the world of spirits and demons, for, according to Khāsi belief, the spirits of the dead and demons are the cause of all joy or woe—they give riches or strike with disease and death.

These monuments are not set up facing any particular point of the compass; the front is generally selected, having reference to the site and its surroundings: thus a number set up together on a hill-top will be found facing outwards, those by the wayside facing the road; however, single sets, standing on a hill-top or rising ground, as a rule, face to the southward.

The history connected with the erection of some large slabs near Cherra Poonjee will exemplify this curious custom. One of the clans, "Kūr" in Cherra, is known as the "Nongtariang"; and many years ago died an old lady of the clan, not famous for anything in particular during her lifetime, but whose virtues appear to have been great after her demise, for after this the Nongtariang clan, from being a poor one, rose gradually to considerable wealth; she, when propitiated and called on for aid, never failed her race, and in return, after some sixty years or more, they raised to her memory five well-cut stones, which are to be seen on the west side of the road between Cherra Poonjee and Surarun, the central monolith adorned with a kind of rose cut in relief on the front face, and an ornamental disc on the apex. It would appear that she still remained the guardian spirit of her clan; they continued to prosper, and as a further token to her memory, they added in 1869 five more stones on the other side of the road, and in a line with the first set.

It may very naturally be asked how descendants possibly dis-

cover what their ancestors are doing for them, and what their views and inclinations may be as regards the amount of aid they may give. To a Khasia there is no difficulty about the matter; when in distress or requiring aid of any kind, seeking omens by the breaking of eggs (which I will hereafter describe) he appeals to and propitiates any one ancestor he may select; only one or two may promise such protection, and these it may so happen have died years ago. The benefit also conferred may be very trivial, and sufficiently acknowledged by the setting up of stones of small size; on the contrary, if great favours are conferred on the wealthy we find large monoliths forming conspicuous landmarks on many a hill-top, scattered over a large area of country, and which are mostly known to the country round by the name of the individuals who have wrought so much good in their after state.

These stones are never erected in pairs or in even numbers; in counting over a very large series still perfect, I found them invariably in sets of three, five, seven, or, as I have before mentioned in the case of the Nongtariang clan, in two sets, five and five, on opposite sites, to the same individual.* Even numbers are considered unfinished or imperfect.

A reference to the plans given, numbers 1, 2, 3, 4, will show the various arrangements in which the stones are set up, both in a segment of a circle and at right angles to each other, as in fig. 3. The most common form, however, is in line, fig. 4. Fig. 1 consisted of a circular platform raised about two feet, faced with rough stones on the front face. These three examples were observed on the hill of Lailang-kote, where the bazar is held, and I have not seen anywhere else the monoliths so arranged; in other parts of the country they are invariably set up in a straight row.

These monuments are also erected for such a reason as the following:—During the illness of a person, every kind of propitiation and exorcism either by the breaking of eggs, sacrifice of fowls, pigs, etc., and by the examination of the liver and viscera, having been made, and then failing to restore him; the sick man may vow that should he recover, he will erect a set of stones to one of his ancestors, who, it is presumed, on knowing of the intention, will do his best to save him.

In setting up these slabs all members of the community are under an obligation to assist on such an occasion, and are not paid for their labour, beyond receiving in the evening a little food or liquor at the dwelling of the family who have sought the aid. The skilled workmen employed on the stone-cutting are,

* Three and five are the most frequent numbers met with, nine very rare I have seen eleven.

however, regularly paid, as is done when cutting the stones for the funeral platform; while this work is in progress musicians are also entertained, and a continual beating of tom-toms (hand-drums) is kept up while the work is in progress.

That many of these monuments, and by far the larger number, are of great age, may be inferred from the fact that their history is quite lost.

As to their distribution, they are to be found over all the higher part of the range; the finest, certainly, in the central portion and in the vicinity of the larger villages, such as Cherra Poonjee, Juwai, Nurtiang, etc.

In Nongstoin, on the west, they gradually die out, and a few, not exceeding three or four feet in height, are to be found in the Khasia villages towards the Garo tribes, but at this limit the Langams come in, and their customs assimilate more with the former-named people. It is the same on the east and north-east of Jaintia; the stones set up are smaller and of rougher form, and by no means so numerous, yet they are to be seen in all kinds of out-of-the-way places quite overgrown with grass and jungle, where villages have not existed for years. Indications were not wanting, shewing that the country had been formerly much more populous, especially on the northern slopes of the Khasi and Jaintia Hills. I have, on the other hand, never come across structures of the kind anywhere beyond the limits of Khasi-speaking people, that is, between longitude 91 deg. and 92 deg. 30 min., which includes the Jaintia Hills, the people of which part are called "Sintengs", differing in some minor points from the Khasis; the dialect is distinct, and there is so strong a type-form of likeness and expression, the two can be generally separated without inquiry. The same remarks hold good for the western side; a Khasi of the border Nongstoin villages can be told off at a glance: so strong are the great clan likenesses.

I have traversed the whole country on the east: viz., the North Cachar Hills, inhabited by tribes of Kookis and Nāgas, and had the Khasi ever occupied permanently a larger area either on the east or west, particularly the former, emigrating, as they are supposed to have done, from that side, I think we might have expected to find, occasionally, remains of their imperishable monuments. The only exception that I know of occurs on the road from Nenglo to Hangrūng, in the North Cachar Hills district, beyond Asālu, a part of the country now in the occupation of Nāgas, and formerly entirely in that of Kacharis, who are Bodos or Méchis. The road lies through forest, keeping along the high spur; at about two miles from the peak of Hemeo are to be seen several large slabs of stone nearly level with the ground, one ten feet by six, covering some sort of receptacle, for the ends of the

stones facing the sides are plainly visible. Near to these slabs is a platform with sides built up of rough stone, similar to those about Cherra Poonjee. Now Nāgas bury their dead, and no monument is erected, the graves being dug in the village street, often at the very door of the deceased person's house, all the protection and covering being a rough one of bamboo or straight sticks interwoven and neatly pegged down all round with hooked sticks. Some tribes of Kūkis bury, others burn, but I have never observed any stones set up, or used to cover the grave. There is just a possibility that the slabs on the Hemeo ridge are the remains of an old Khāsi settlement, occupied, perhaps, for a short period when on their emigration westward.

The largest collection of huge slabs and upright stones that I have seen anywhere in the Khāsi Hills, is at Lailang-kote, the arrangement is so different in every way, that there can be little doubt that it was erected for a very different purpose, and was probably a place of meeting of the chiefs and elders of the clans. The steps to ascend it would indicate such a purpose, and we can imagine all the men of rank and influence seated around, and harangued by one of their number. I could never learn the history of this structure; although I made frequent inquiries, they could not say when or by whom it was set up. The stones, especially the large horizontal one, are of great size; this, with others, is of the granite found close by, but the hill on which the structure stands is an outlier of quartzitic sandstone, horizontally stratified, and great labour must have been expended in dragging such huge blocks into their present position; for the slope to the top of the rise, though not great, yet is quite sufficient to render such work a formidable undertaking. The weight of the largest horizontal slab was twenty tons eighteen hundredweight, and of all the stones composing its construction eighty tons. The horizontal granite slabs were unhewn, as well as the highest upright monolith, which stood eighteen feet nine inches. Eight of the upright stones out of the eleven were of sandstone. The largest slab is an irregular oval in shape, thirty feet by thirteen feet in longest and shortest axis, with a mean thickness of one foot and one-third, standing nearly five feet and a-half above the ground, and resting on ten upright unhewn pillars of granite; on the south side are four other slabs arranged close to the edge of the large one, and round all rise the eleven upright pillars; on the eastern end are two other slabs forming steps to ascend by.

I give a drawing of this very curious monument with a plan, and in an appendix the measurements of every stone, and these shew better than aught else the great massiveness of the work, and what an amount of labour these people must have expended in collecting the materials and setting them in this spot.

I never saw the Khasis engaged in raising a stone into the upright position, but I saw the spars which had formed a sort of cradle on which the stones forming the monument erected by the Nongtariang clan previously alluded to had been dragged from the spot where they had been quarried. They consisted of strong curved limbs of trees roughly smoothed and rounded, and would present a very small surface to friction. These stones had been taken from the side of a hill near, and had apparently been wedged out of the face of a step in the exposed sand-stone strata.

It may be as well that I should here give some account of the funeral rites of the Khasis, which will show there is no connection between them and the monuments I have been describing, and with which the other stone erections have no doubt been often confounded. In their funeral rites there is much that is wonderfully strange, and to those unacquainted with their superstitions, appears unmeaning. There can be no doubt but the Khasis have a very strong belief in a future state, and to say that they have no religion, as has been stated by some writers, is erroneous. True, they have no temples for either worship or idols, the religion of the people is principally a demon worship, and we find the Khasi ever in communion with or in the power, as he supposes, of the spirits of those who have gone before him. While, added to these spirits of their ancestors are numberless demons, male and female, ever ready, if not propitiated, to bring evil upon himself or his undertakings, and whose power even extends over the spirits of the dead. Every dark shady wood, every stream, every conspicuous hill has its presiding demon, which in many instances gives the name to the site. Thus, the hill of Lārū, in North Jaintia, beyond Nongjinghi, is the abode of a one-legged demon, whom to see is death, but who was occasionally heard in the dense forest that clothed the northern steep face of the mountain, so said the credulous villagers of Nongtūng.

The dead are burnt on a funeral pyre, the logs of which are arranged very regularly, and the body lies in a sort of bed formed by them.

The calcined bones and ashes are collected and placed in an earthen vessel (small "ghara"), and are generally buried in some adjacent spot, a stone being placed over the vase for security; they do not, however, remain permanently in this place. Every family or clan has a separate receptacle for these remains, constructed in several ways, but always covered with a heavy slab of stone; these receptacles are called "Mao-bah," the great stone "Mao-shīng," a bone depository—lit., the "bone stone."

M. Schlagintweit has fallen into an error regarding the dolmen-shaped structures, and was not aware that this form is so

intimately connected with cremation, and that bangles and other ornaments are to be found in them. Whether such are removed from the body at the present day is a point I did not satisfactorily clear up, but which is one of interest.

You find the cromlech cuboidal form of four well-cut large stones on edge, closely fitted and surmounted by another horizontal one closing the structure. I give a drawing of a very large and striking one not far from the mission houses at Cherra; one of the sides of this has fallen and been removed, it is probably of great age, and the family is extinct. In other cases a number of rough stones are set up in a circle, crowned by a flat circular slab. I have also seen them of octagonal form, the sketch represents one in the south of Jawai, near the site of a deserted village, one of the side stones has fallen outwards, thus exposing the interior; in this I found several calcined bones and two bangles or wristlets of brass; this surprised me, for I was not aware that ornaments were left on the body on cremation; nor do I think they are at the present day. There were no traces of pottery either, and the bones had not been placed in a vessel as is the usual custom now. The structure was apparently of considerable age, and no village had occupied the site for many years.

A very general form at present of these bone receptacles is that of a heavy slab of stone, level with the ground, covering a cyst, which is lined with stones.

The bones are not consigned to these receptacles for some time, often a year or more after the burning of the body, and in no case until it has been ascertained that the soul of the deceased is at rest, and leading a life, or rather a new existence of happiness; should the whole of his family remain in health, this state is assumed to be attained, if, on the contrary, any member be afflicted with illness or pain, the spirit is understood to be restless and in want of something; the breaking of eggs is resorted to, and such may indicate that it is necessary to sacrifice a fowl or goats, and that the bones of the defunct be taken up and buried in another spot. Such removal, however, in the case of the most troublesome ghost is only done three times, and restless as he may be, the bones are then finally deposited in the family bone receptacle; man and wife are never deposited together; they belong to different clans, thus the ashes of children are placed in the receptacle of their mother's tribe to which they are considered to belong. I would here refer to the paper written by the Rev. J. Pryse in the *Calcutta Review* for 1854, p. 128, with his excellent description of a form of sacrifice. (Appendix B.)

The collection of the bones into one vault, as it may be termed, is done under the impression that the souls of the departed may

all mingle together again in one large family without trouble or suffering. The idea of a member of a family being a wanderer in the other world, cut off from, and unable to join the circle of the spirits of his own clan, is most repugnant to the feelings of a Khasi or Sinteng. Thus we find every attempt is made on the death of a man in a distant village or district to lead his spirit back with his calcined bones to his native place. For instance, should he die alone on a trading expedition into North Cachar and be buried by a tribe of some other denomination, some relation, if he can afford it, will proceed to disinter and burn the remains; such will be done years after when accident may take some relative near the place. Of this I had an interesting example in my own camp when marching from the Khasi Hills to Asālu.* While encamped at Thangnansip in North Cachar, one of my coolies (porters) came one morning and asked leave for the day for himself and some of his fellows; on asking why they wanted it at such an unusual time, when we were in the field and moving camp, he said that a relation had died in that village while on a trading speculation with dried fish and salt towards Asālu from Jawai. It appeared that the man, having got an attack of fever, had been left behind by his companions, in the hope that he would get round in a few days and then follow them; he, however, eventually died, and was buried by the Kükis of "Kabúr." My men had with some difficulty discovered the grave (for many years had elapsed), the site of Kabúr had been changed in the interim, as is the custom of the Kükis, who seldom remain more than four years tilling the same ground, frequently not more than three, known in that part of India as "Joom cultivation"; high grass covered the old village site; the Khasia coolies, however, disinterred the remains, burnt them, and the residue was carefully preserved and sent back to Jawai, the man's native place, to be interred with the bones of his family.

When carrying the remains to the home of the deceased, not only is the greatest care bestowed on them, but the spirit is carefully considered and led onward, to prevent the possibility, as they suppose, of its wandering off the route. Leaves are occasionally plucked, and with three or four grains of rice placed on them, are deposited by the wayside as offerings. On reaching a river this is done on the bank, and sometimes when such a river is large and the abode of some powerful demon, a fowl is let loose in the jungle as an offering to the titular spirit of the stream. A most curious custom exists connected with this transporting of the soul which I have seen on several occasions. The dead, they say, have not the strength or ability to wade

* Crawford's embassy to Siam, we find that a similar idea prevails in Siam (see Appendix C).

through water, and if they trust themselves to it would be carried down the stream, never to be recovered. They, therefore, stretch a thread of cotton from one bank to the other, and if the breadth is great this is kept clear of the water by sticks planted in the bed of the river, and notched at the top to receive it. If the running water should be very narrow merely a stick is laid, or even a stalk of grass is considered sufficient to form a bridge for the dead man's soul. The line of thread is called the "string bridge."

On passing through some dense dark wood where it is presumed a demon may be, they think it not improbable that he may be detaining them or throwing impediments in the way, and should any of the party fall sick such is to them clearly indicated. The breaking of eggs is resorted to, or a pendulum is made by tying a stone, knife, or generally the brass box in which they keep the lime that is mixed with the betal and pan leaves, and the rite so well described by Hodgson (Appendix A) is gone through. The similarity of the Bodo or Mech custom shows how general these superstitious customs are among the tribes in this quarter. The only difference being that with the Khasi, the weight is caused to revolve in a circle should any spirit require to be propitiated, and that it should cease to revolve when the offering, either a fowl or a pig, is considered to have been accepted.

Should a Khasia lose his life in such a way that his body cannot be recovered, say by being drowned in one of the large rivers in the plains, his relations assemble on some prominent hill or rock overlooking the low country. One of the members taking some kowries (small shells used as money, *Cypræa*) in his hand, and, looking towards the site of the accident, shouts out the name of the deceased and calls on him to return; his spirit having been supposed to do so, they proceed to burn the cowries, which are symbolical of his bones, and any clothes of the deceased they may possess. The ashes of the cowries are then placed in the bone depository.

The corpse is kept in the house four or five days, occasionally longer.* In the case of chiefs of tribes, men of consequence and wealth, the body after death is preserved in honey, and kept in this way in its coffin for a very considerable period; the platform on which the body is burnt is erected during the times, and considerable expense is entailed on its construction, in cutting the stones, as well as on the expenditure of gunpowder; throughout the day explosions may be heard at irregular intervals from different quarters, now at one side, then at another to drive away

* The excessive and continuous rainfall of the Khasi Hills is not the reason why the dead are preserved in honey; it would be impossible to procure it in sufficient quantity for such a purpose. *Vide* M. Schlagintweit's paper in the "Ausland", where this is stated.

evil spirits, who I suppose they think may be hovering about the neighbourhood. Here we find a custom the counterpart of one in Burmah, where the body of a Buddhist priest of rank is embalmed in honey, and laid in state for a long period, to be afterwards blown up with powder, together with the costly hearse that bears him to the place. The same custom we find in "Crawfurd's Embassy to Siam" exists in that country.

There is some slight analogy to be traced between the funeral customs of the Khasis and Singphos, particularly in the collection of the ashes and subsequent interment. (Appendix D.)

The breaking of eggs is perhaps of all modes of seeking for an omen the most curious of all the Khasi customs, but it is by no means confined to these hill people. I am informed by Colonel McCulloch that the Kükis and some other of the numerous Hill tribes around the Muni-pūr Valley do the same; but then it is not so commonly practised, and I never myself saw them engaged at the rite. The Gāros use eggs only for sacrifice. The number broken appears unlimited, but about twenty is a common number. It depends, of course, on the means of the individuals. They use a small board about twelve inches by eight inches square, which has a projecting kind of handle with a hollow to receive the egg to be used. The position of the chips on this board indicates the luck or answers to the inquiry that is sought, and only those pieces that fall within the board, outside of the egg-shell upwards, count as signs. The egg is personified and addressed after this manner: Egg! I am only a man, am ignorant and can divine nothing; you can commune with spirits, and between man and them have intercourse. Now, say! who has done this? (in case of sickness)—who has caused this man to fall sick? If the spirit is in the house, let the signs be on the left; if out of the house, on the right. The exorcist spits on the egg, and taking some clay in his hand, smears it over, so that the outside may be distinctly seen when it is smashed. Apology is made to the egg, saying: I do not spit on you to insult you, but to clean you and give you a colour. Then standing up he throws the egg down with all his force upon the board.

It would appear that only those pieces of egg-shell that fall to the right or left are of consequence in the matter; those that fall beyond or on the off-side of where the egg strikes are the representatives of spirits that are not implicated with the matter in hand, while those that lie on the near side show that the sickness is the cause of purely natural causes, over-eating, drinking, or exposure to heat and cold, and not through the agency of any malignant spirit; such signs are of good import, and indicate (taking a case of sickness) that the person is likely to recover. Should he not do so the egg, or rather the exorcist, a professional sacrificer called "Ka Nong Kinia", or "Ka Nong Kein Ksuid",

holds his own, he can reply: What was the good of calling me in, to seek signs from eggs, when the man was past hope? I could only give you such, and say he was sure to recover.—As might be expected, the sacrificers prey on the ignorance and superstitions of the people; and it not unfrequently happens, I am told, that on one being called in, and after smashing a number of eggs, he declares that owing to previous communion with spirits in other houses, he can do nothing, and recommends that another exorcist be called in, to kill a pig or a fowl, and thus those who can afford it are made to give up as much as can be squeezed out of them.

Any member of the community, if he desires it, can learn the forms of offering, sacrifice, etc., under the instruction of those who are in the profession, and who can thus sanction and look to their due and proper performance. When they sacrifice a cow, goat, or pig, the liver is the principal part examined for omens; if it is smooth and healthy, such are good. The entrails, if full, are a propitious token; the size of the gall-bladder is another point—if small, poverty may fall on the family. Demons also are particular; some will not accept a black or coloured fowl; pure white only will suffice, and these they object often to sell.

It is often a matter of great difficulty to persuade a Khasia to take medicine, especially men from outlying villages; they quite dread it, imagining that, should they take it, some spirit, wroth at not being propitiated, may alter its properties, and thus make them much worse. I have seen a grown-up man burst into tears, and beg that medicine might not be administered, when he was lying seriously ill. They, however, soon find out the good effects of our treatment, especially that of quinine in fever, and they laugh in turn at the scruples of their more ignorant companions.

The Jaintias, or, more properly, the Sintengs, on the East, are, I think, more under the influence of their exorcists than are the Khasis, on the West. On certain occasions, individuals sacrifice a number of animals to different demons, and a great feast is held, to which numbers are invited; men, women, and children, are then arranged in large circles, each with a leaf for a plate before them, on which the meat, when dressed, is served.

There is, however, one very extraordinary custom—one, I am glad to say, confined to only a few villages in the Jaintia country—called "Tarroo". The unfortunate individual who is presumed to be in league with a demon, in order to clear his character and be again admitted into the society of his kinsfolk, must throw everything he possesses away, even to the clothes on his body, and begin life anew. A man on whom such an accusa-

tion falls is deserted by even his wife ; for all consorting with him after the fact is declared would be equally outcasts. The abuse of such a custom is unlimited ; private spite must enter largely into its organisation ; and it becomes a ready method of ruining an individual of whom the community may be jealous, or who is obnoxious to them. The civil authorities have with success looked with disfavour on it, and done much towards breaking the custom down. The missionaries also in Jawai have, no doubt, by the establishment of their small Christian colony, done much towards the same end. This system of witchcraft does not date, I am told, from a very remote period. Names of demons are from time to time invented, or rise up, and the most formidable now is a female demon, having sway over wealth, and who is connected with the superstition "tar-roo". The curse may alight on an individual in many ways, of which I give the following instances of how it acts on the community.

A person may get ill, and, as in fever, become delirious ; those attending on him listen attentively to his ravings, and he may constantly take some one's name in connection with his state. This person is said to have the ear of the demoness, and to use such influence for the purpose of bewitching others.

Two persons may join in trade together, and be on the best of terms for several years ; but one may have a terrible dream repeatedly, or say he has, connected with their gains ; he may then accuse his partner of having obtained certain power from Tarroo.

A man, originally in poverty, rising in a very short time to be wealthy, the whole village may secretly, among themselves, point at him as having entered into a compact with this demoness ; but no proof is forthcoming until some person suddenly falls ill, and apparently without cause. This sick person is questioned, and even bullied into saying that he believes the suspected person is the cause of his illness. They will proceed to throw ashes in the face of the accused, as a sign that his further acquaintance is not desired. This is a common custom, and is done to a person for other reasons, such as for stealing, or committing some heinous crime. A woman who supplants the affections of another who is a wife may have ashes thrown in her face for spoiling the husband, and is thus marked, for, of course, it is done in some public place. But, to continue, the family of the sick man next count up the number of paus that have been given by the accused during their intercourse, the number is prepared, made up into a bundle, and placed at his door during the night, and a sucking pig is killed and also left there. In the morning on the first opening of the door, the sign

is seen by the inmates, and quite as soon by the neighbours, who collect to revile and jeer the unfortunate individual; his relations leave him; his wife, if he has one, retires to her parent's or sister's home, and in no other way can he recover his position in society save by throwing away all he possesses; cash and clothes are scattered on the road as he goes out of the village, and are picked up by those who follow; his house, I was told, is also demolished, and the thatch roof carried out and burnt in the outskirts of the place.

This paper has become much longer than I had anticipated, and I fear will exhaust the interest that there may be in it. I had intended alluding to the Kūkis, Mikirs, Garos, etc., and exhibiting drawings of their burial-grounds, but this I think may be best postponed and introduced with some notes on the extension of those tribes and the people of the northern slopes of the Khasi range of hills, if this Society should think such of sufficient interest to them. I trust also that Captain Williamson, Deputy-Commissioner of the Garo Hills, now on leave in England, will give us the benefit of the valuable information I know he has obtained regarding the manners and customs of the Garo tribes, among whom he has mixed so much and so intimately.

APPENDIX A.

Paper on the Origin, Location, etc., of the Bodo, Kocch, Dhimāl People, by B. H. Hodgson, Esq., Asiatic Society of Bengal, 1849. Vol. xviii, pt. ii, p. 728.—“Thirteen leaves, each with a few grains of rice upon it, are placed by the exorcist in the segment of a circle before him, to represent the deities. The Ojha squatting on his hams before the leaves causes a pendulum attached to his thumb by a string to vibrate before them, repeating invocations the while. The god who has possessed the sick man is indicated by the exclusive vibration of the pendulum towards his representative leaf, which is then taken apart, and the god in question is asked what sacrifice he requires?—a buffalo, a hog, a fowl, or a duck to spare the sufferer (the Ojha best know how?) a hog, and it is forthwith vowed by the sick man and promised by the exorcist, but only paid when the former has recovered. On recovery the animal is sacrificed, and its blood offered to the offending deity.”

APPENDIX B.

Calcutta Review, 1854, p. 128. Paper by the Rev. J. Pryse.—“The universal desire to immortalise the memory of their dead ancestors on earth by the erection of stone monuments, may be deemed as a faint indication of an expectation of some kind of future existence. The sacrifice for their dead, which they call ‘Suid-iap’, or ‘Ksuid-iap’, that is, the ghost or demon of the dead, may be considered indicative of the same notion. The professed intention of the sacrifice is to pacify the

spirit of the dead, so that it may come in the capacity of a 'Ksuid', or demon, to cause pain and calamity to the family. This sacrifice is frequently repeated after a person's death, if his bones were deposited in a small repository; but if they are placed in a large one, the fear of his injuring the family is not so great, and the sacrifice is not so frequent, because 'la buh ka niam ka rukum', the religion and customs were observed regarding him."

Extract from the Rev. J. Pryse's Paper, p. 130.—"The reader is desired to observe that this form is always pronounced, when the person on pronouncing it is in the act of offering his thankofferings; hence it was thought necessary to give a few explanations of the movements of the speaker."

"Thank Offering to Secure the Protection of the Goddess."

(The Khasia words are, "Ka jing-nguh pynskem ia ka blei"; the offering is made in order to secure the kind offices of the goddess in the future, rather than to acknowledge past kindness.)

"Attend, O Goddess, that thou mayest protect us all as a family,* that we may increase and prosper. O Goddess, we are now about to sacrifice a large cock, and a large horned goat, also a plaintain leaf, flour, baked rice, a heart, and a twig. Do thou, O Goddess, attend to us. I put up and cause to stand the offering for the purpose of appeasing thee, O Goddess.† O thou family-builder, I remove and drive away thirty demons, nine demons,‡ and Ka Tyrút Ka Smer,§ that I may prepare and set aright the intestines, that I may cut the throat of the cock, and sprinkle the blood upon the twig.|| Away, thou Ka Tyrút ka Smer! I sweep away and remove thee, that I may open a clear road for the purpose of inquiring concerning the good and the evil. Thus it is proper that I should sacrifice a large horned goat. Attend thou, O Goddess, whilst I offer to thee a member and the backbone after I shall have laid it bare and made it ready.¶ Attend thou, whilst I observe and keep the rules and customs, and whilst I offer to thee a sacrifice in order that thou mayest give us

* "All as a family", "baroh shi kur", "ka kur", is generally used among the Khasis to signify all those who are related by blood.

† Whilst saying these words, the officer prepares the place, and causes the goat, etc., to stand by the place. (See Lev. xvi, 7.)

‡ The offerer, whilst saying this, throws some rice on the ground to pacify the evil spirits, and drive them away, lest they should desecrate the sacrifice and ceremonies. "Laipen ksuid kyndai ksuid"—here neither thirty nor nine should be regarded as the exact number, but both signify any number indefinitely great; much in like manner as the number one thousand was regarded by the Jews, and as that number is occasionally used in Scripture. The phrase, "kyndai ksuid", nine demons, seems to be an old phraseology, the exact meaning of which is not known at present; but "laipen ksuid", thirty demons, is the common phrase in use to signify an indefinitely great number—it means *all*.

§ The name of one of the most powerful and malignant demons.

|| Whilst speaking thus, the offerer kills the cock, and sprinkles the blood as described above.

¶ The offerer's hands are busily employed in preparing his sacrifice whilst he utters the above speech.

health, that we may increase and prosper, that we may walk securely, that we may enjoy our possession in security, that we may carefully ameliorate our families, that we may increase in number. Do thou embrace us, do thou confide in us, do thou support us whilst we observe the rules and customs, that we may become numerous, that we may offer thee sacrifices. Come thou and receive us, receive us at thy feet, that we may spread out on the right and on the left. Come, confide in us ; come, support us ; come, envelope our spirits with thy power.*

This sacrifice is generally made by a whole Kúr or family *all related* by blood.

APPENDIX C.

Crawfurd's "Embassy to Siam", p. 19.—"Under ordinary circumstances so much importance is attached to the rite of burning the dead, that if the ceremony cannot be performed soon after death, either from poverty, or from the party dying at a distance, the body is first buried, and afterwards, as soon as convenient or practicable, disinterred and consigned to the funeral pile. Of persons of distinction, a few of the bones are kept, and either preserved in urns in the houses of their relations, or buried, with little pyramidal monuments over them, in the ground adjacent to the temples. Of these monuments we saw a good number: they are small and paltry, without any inscription.

APPENDIX D.

W. Griffith's "Journals", p. 75.—"Close to the village are the burying-places of two Singphos. These have the usual structure of the cemeteries of the tribe, the graves being covered by a high conical thatched roof. I find, from Bayfield, that they first dry their dead, preserving them in odd-shaped coffins until the drying process is completed ; they then burn the body, afterwards collecting the ashes, which are finally deposited in the mounds over which the conical sheds are erected," etc., etc.

APPENDIX E.

Burning the Dead, etc.—"The practice of preserving dead bodies in honey has not arisen, as M. Schlagintweit states, from the extremely wet season experienced at Cherra. Bodies are burnt throughout the rains, as I have witnessed. Men of rank or wealth are treated in the above way, and are often kept thus preserved during the whole of the dry cold weather, and not burnt until a propitious time has been selected. The custom, no doubt, has been derived from its Eastern source."

* Mr. Pryse remarks : "However devoid of sense or puerile the traditional and unwritten literature of the Khasis may be considered, the writer is not sure that he is able to elicit much more sense from many parts of the much talked of literature of the Vedas and Puranas of the Hindu sages," and he offers a specimen from the Sanhita.

Memoranda of Size and Height of the Stones composing the Monument at Lailangkote, Khāsi Hills (from careful measurement of same).

UPRIGHT STONES OF GRANITE.

	Cubic feet.	Total, cubic feet.
No. 1=13ft. 10in. × 4ft. 0in. × 1ft. 6in.=	83·0	
3=18ft. 9in. × 3ft. 6in. × 9in.=	49·2	
10=11ft. 2in. × 4ft. 0in. × 1ft. 0in.=	44·7	
		176·9

UPRIGHT STONES OF SANDSTONE.

2=18ft. 6in. × 3ft. 4in. × 1ft. 8in.=	104·7	
4=12ft. 6in. × 3ft. 0in. × 1ft. 8in.=	63·8	
5= 9ft. 0in. × 3ft. 0in. × 1ft. 6in.=	40·5	
6= 8ft. 3in. × 2ft. 4in. × 9in.=	14·4	
7=10ft. 9in. × 4ft. 8in. × 1ft. 2in.=	58·6	
8= 9ft. 6in. × 2ft. 9in. × 1ft. 2in.=	30·6	
9=10ft. 9in. × 2ft. 6in. × 2ft. 2in.=	58·4	
11=12ft. 5in. × 2ft. 6in. × 1ft. 6in.=	46·7	
		417·7
		594·6

THE LARGEST FLAT STONE OF GRANITE.

Greatest length, 30ft. 4in. ; breadth, 10ft. ; and mean thickness, about 1 foot : measured by co-ordinates laid off from a central line, at 2 feet apart, with the thickness at edge. Total of cubic feet in mass 329·0.

FLAT STONES ON SOUTHERN SIDE, AND THE TWO STEPS.

	Mean breadth.	Mean length.	Mean thickness.	Cubic feet.
No. 1=	6ft. 0in.	× 8ft. 4in.	× 8ft. 0in.	=33·0
2=	5ft. 8in.	× 9ft. 8in.	× 1ft. 6in.	=82·0
3=	5ft. 2in.	× 9ft. 9in.	× 1ft. 4in.	=67·0
4=	5ft. 1in.	× 7ft. 2in.	× 1ft. 4in.	=49·0
5=	9ft. 3in.	× 5ft. 8in.	× 1ft. 0in.	=52·0
6=	3ft. 2in.	× 5ft. 8in.	× 8in.	=12·0

295·0 cubic feet.

The specific gravity of granite being taken at 2·6, or 163 lbs., the weight of the Lailangkote granite by experiment, we have for the weight of the largest flat stone, 329 cubic feet=tons 23 : 18 : 3 : 7 ; for the other six, 295 cubic feet=tons 21 : 9 : 1 : 9.

DISCUSSION.

Dr. CHARNOCK said the "Asiatic Researches" for the year 1828 contained a short paper by a Mr. Walters on the Khāsi (Cāsias). The paper in question, which related to the village of Supar-Punji, also contained drawings of certain stone monuments ; among others, four large circular stones standing together. They were only a few feet

high, with a smooth surface, and resembled trees cut down; but it did not appear for what purpose they were used. Mr. Walters stated that the uprights and stone doors referred to in the paper were monuments to the memory of deceased rajahs and chiefs; that the upright slabs of granite were detached from the rock by means of fire; and that the dead bodies of the Khāsi are burned at an appointed place, and the ashes placed in earthen pots, which are deposited under the stones. He (Dr. Charnock) doubted the suggested derivation of the name of the tribe. If derived from the Hindústānī, it could not be very ancient. The chief interest in the paper lay in the fact that the Khāsi erect these monuments at the present day.

Sir DUNCAN GIBB said there was a feature of some interest in the author's very interesting paper, and that was the statement that the stones of the megalithic remains described by him were obtained from quarries of sandstone not far distant from the place in which they were erected. Now, this point he looked upon as of considerable importance, because it so readily explained the comparative facility of transport of such huge masses of stone as entered into the construction of the monument described. In this country the most diverse opinions prevailed as to the locality whence the stones were obtained composing such monuments as are found at Stonehenge, Aylesbury, and other places, and he thought the author had added to the value of his paper by giving accurate details as to the locality whence the stone was obtained, composing the remarkable monuments so graphically illustrated; nevertheless, as a geologist, he should like to know from the author to what formation these sandstones belonged.

Col. A. LANE FOX thought the Institute might be congratulated upon the paper which they had just heard, which was one of the most important contributions to anthropology that had been received for some time past. It was impossible to overrate the value of the details of the manners and customs which Major Godwin Austin had given, and which were associated with the erection of these megalithic monuments at the present time. They might at some future time serve as links of evidence in interpreting the object of similar monuments in other times and places. The great problem before the Institute, he thought, was how far the builders of these monuments in our own time might be regarded as the representatives of those who erected them in the prehistoric period of Europe, or how far the monuments themselves might be regarded as survivals from the prehistoric age. The geographical distribution of these monuments, as he had before shown in the *Ethnological Journal*, was continuous, or nearly so, extending from those Kassias in the north-east of India to Central India, Persia, Asia Minor, the Crimea, along the north coast of Africa bordering the Mediterranean. They are found in Etruria, up the south and west coast of France into Britain, and as far as Denmark and Sweden. In so far as our present knowledge enabled us to judge, they were unknown in Russia proper, in Northern Asia, in Central and Southern Africa, and on the two continents of America, with the exception of Peru. Their continuous geographical distribu-

tion extending from our own country to the country of these Kassias was in favour of the view that their erection might be a practice handed down by them from the remotest time; and this gave great additional interest to the study of the customs of the people who built them. Evidence of great antiquity of these monuments in India was wanting; most of those examined in Central India have been found to be associated with implements of iron; but it had been shewn that iron in the soil in that country would be preserved for ages, and there was no knowing how far back the use of this metal might have extended. There was one peculiar custom which in Europe, Africa, and Russia appeared to have nearly the same geographical distribution as those monuments, and which was sometimes associated with them; he alluded to the custom of placing pieces of rags upon trees at holy wells and elsewhere as a cure for diseases, and he should like to ask Major Austin whether this custom prevailed amongst these Kassias or in their neighbourhood.

Mr. HYDE CLARKE observed that Colonel Fox had just enumerated the geographical region of megalithic monuments, and this was precisely the region described in his paper on the Caucaso-Tibetans. The areas are coincident. The Khasias are seated among tribes, which have linguistic affinities with Georgian and Palæogeorgian. The present Khasias cannot, however, be considered as *in situ* in reference to the ancient migration connected with the stone monuments of the Dekkan, but are a subsequent migration. The connection of traditions between Khasias, etc., and Burmah is simply because they are obtained from a common centre in High Asia. Among the many valuable facts is that of the male and female stones, and the numbers of these are, perhaps, also male and female. The numbers three and seven signify middle. In two cases where eleven occur they are arranged as six and five. The male stones are more numerous than the female, and may have some relation to polyandrous notions. Egg divination may possibly have its metaphysical basis in the relations which exist in many languages in the form of words for eye (eage) and egg. Major Austen's testimony to the moral qualities of the hill tribes is of value. Dr. Hunter, hon. member Anthropological Institute, has pointed out in his *Rural Life in Bengal* that it is on the hill tribes we must greatly rely for the invigoration of our Indian empire.

Mr. W. C. DENDY: The great merit of this paper is that it is written by a careful observer who was an eye-witness of all which he describes; one such narrative is worth a volume of compilations. In our own region the megalith is a relic of very ancient date, the record, perhaps, of a semi-barbarous race, and all account of them is usually speculative and conjectural. In the east we learn there are kistvaens and cromlechs and dolmens of recent date, the constructors of which are yet in existence, and an inquiry into their history may elucidate by analogy some of the obscurity that has yet clouded our own megalithic monuments. Choir Gawr or Stonehenge is composed of several sorts of rock, blue stone and marble, sand and granitic: why is this variety of selection? Among Major Austen's sketches there is

one of a beautiful megalithic temple, and he alluded to male and female stones. May this variety of quality and colour in the stones be symbolical of idol or astral or planetary worship? In Asia, it seems, these relics are chiefly within a certain latitude forming a belt from Oceania to the Mediterranean, the zone, indeed, of the anthropomorphous simiæ; and we have accounts of the relics of Asiatic pigmies discovered in and around one of these cromlechs not remote from the Khasi Hills. Remembering the influence of climate on both mind and body, it might be interesting to inquire how far a superstitious psychology may be an ethnic trait among the less accomplished orientals.

Dr. A. Campbell, Mr. James Fergusson, Mr. J. W. Flower, Dr. Seemann, Mr. E. B. Tylor, Mr. Wake, and the Chairman, also took part in the discussion.

Dr. W. A. PECHEY contributed the following Vocabulary, with notes thereon, of the Cornu tribe of Australia:—

The territory of the Cornu blacks is on the south bank of the river Darling, from its junction with the Bogan to Toralie, which is about sixty miles further down the Darling, and with an average width of five to seven miles back from the river.

NOTE.—The hyphens only divide the syllables, they do not mean any pause. When the *g*'s are hard, they are printed in italics. All the rest are soft. The words are spelt as they are sounded.

Sun,	You-ko.
Moon,	Pre-tella.
Stars (collectively),	Poor-li.
Milky way,*	Parra-wortoo.
Magellan's clouds,†	Butter-bir-ruka.
Black hole in milky way,‡	Cultah.
Southern cross,§	Keen-dah.
Pointers to ditto,||	Niké.
Day,	Murn-ké.
Night,	Tun-ka.
Yesterday,	Carroo-coona.
Long time ago,	Can-dun-ki.
God,¶	Cool-a-booro.

* Supposed by the Cornu tribe to be another river, on the banks of which, after death, they rise again as white men. They point out places in the milky way, which represent parts of the River Darling, as the native fishery, etc.

† Two old black women who, for some misdeeds, were sent to the skies as a warning.

‡ This they call the emu; the name is the same.

§ Called the Cockatoo; name the same.

|| The snake.

¶ I am not at all certain what is expressed by this word, except that it means the master of all the blacks and created things; of his good or evil attributes, I am ignorant. In Corroborries, for rain, etc., this is the power they invoke or hope to appease.

Devil,*	Booree.
Thunder,	Prindah.
Warm, hot,	Poort-gê.
Cold,	Pondingella.
Near,	Weep-ab.
Far off,	Poor-i-carry.
Camp,	Yap-perrah.
Good,	Can-gella.
Yes,	N-yeë.
No, not,	Na-ta.
Large,	Wirtoo.
None,	Keel-dah.
What,	Min-nah.
Me,	Nup-pah.
Mine,	Neara.
Morning,	Won-gon-gola.
Middle of day,	Parena.
Evening,	Youko bin-cau-not.
Where, which way,	Win-gerra.
There, that way,	Wir-ta.
Up the river,	Womba.
Down the river,	Thurnga.
The river,	Park-ah.
Water,	No-ko.
Fire,	Curlah.
Earth, dirt,	Murndi.
Wind,	Yer-too.
Cloud,	Mindyah.
Hungry,	Yarn-gi.
Thirsty,†	Keel-da tongalla.
Blood,	Carndarah.
An old man,	Mur-tah.
A young man,	Cul-tah.
Old woman,	Par-ruk.
Young woman,	Cum-bulla.
Child (of either sex),	Pur-lu.
Child (female),	Chi-cun-go.
Spear,	Cal-car-roo.
Boomerang,	Worn-ah.
Engraving on ditto,	Mooroo.
Tomahawk (stone or iron),	Tharinga, wal-ka-ka.
Eliman,‡	Wool-oom-burra.
Nulla-nulla,§	Poon-di.
Hunting-stick,	Poon-goola.
To throw a boomerang,	Welka.
" a spear,	Punda (imperative).
Hit him! hit him! spear him!(imp.)	Purta! purta! punda!
Kangaroo,	Thirl-ta.
Grey Phalangista,||	Yarn-gi, coll.
Emu,	Culta.
Kangaroo rat,	Curti.
Shingle lizard,¶	Calerti, tartar-book.

* I am by no means sure that this is a pure Cornu word: the blacks are afraid to call the spirits of evil by their names. The Papilio Erectheus is supposed to follow one of the evil spirits (Yau-ta-muck-e gah) about like a dog; and when the butterfly is seen the evil spirit is not far off.

† More properly, "I have nothing to drink."

‡ The little shields, made either of hard wood or bottle-tree, with which they defend themselves.

§ A stick, with a knob at the end, which is carved in squares.

|| Opossum.

¶ Grus giganticus.

Native companion,	Curlo-coo.
Pelican,	Noncarroo.
Duck,	Won-gon-ga.
Unio (shell-fish),	Nilli-ke.
Crayfish,	Congoola.
Shrimp (from river),	Coopo-boutea.
Red-bill,	Too-laroo.
Fly,	Wingaroo, mokere.
Hornet,	Win-ger-tee.
Black cockatoo,	Teero.
White ditto (sulphur crest),	Cain-dah.
Centipede,	Uregarica.
Snake,	Niké.
Iguana,	Tarcoolo.
Frog,	Ponbolla.
Large green frog,	Ponbongi.
Moths,*	Curl-cum-bullet.
Bush mouse,	Counder-oun-parilick.
Dog,	Carle.
Rose cockatoo,	Keelambah.
Common hawk,	Cook-qua.
Swallow,	Nin-bimbé.
Fish (collectively),	Wunga.
Bullock,	Girdal.
Bush rat,†	Coom-pannah.
Soldier bird,	Mater-matook.
Small red-backed parrot,	Pun-er-outool.
Crested shrike,	Peegetilla purtiga.
Spotted ground dove,‡	Coberthew.
Striped ditto ditto,§	Murrah-bundera.
Small cormorant,||	Callour-gah.
Spotted bower bird,¶	Wall-turtah.
Small shrike,**	Pine-pip-ararle.
Small parrot,††	Curla-wongo-lingé.
Darter,‡‡	Peelah.
Brown owl,	No-go.
Small mantis,	Coula-muckuka.
Butterflies,	Bil-bil-luka.
Trees (large gum trees),	Comballa.
Small trees (scrub),	Kirrara.
Rolly polly,§§	Thiuge-liuge.
Wild cress,	Parnuk.
Possum cloak,	Nurli.
Feathers,	Milé-tee.
Mistletoe,	Tinemo.
Melania (fresh water shells),	Neenma.
Plenty,	Noberta.
Egg of bird,	Won-darté.
Egg-shell,	Karrah.
Egg (meat of),	Poorné.

* Of the genus *Cossus* and its allies, both the moths and their larvæ are eaten by the blacks, and are considered delicacies.

† *Phuscologale pennicillata*.

‡ *Geopelia*.

§ *Geopelia tranquilla* (Gould).

|| *Phalacrocorax leucogaster* (Gould).

¶ *Chlamydodera maculata* (Gould).

** *Oreocæ cristata* (Gould).

†† *Euphemia pulchilla* (Gould).

‡‡ *Plotus Novæ Hollandiæ* (Gould).

§§ A chenopodaceous plant, which grows into a rough spherical form, and, when dry, is torn up and driven over the plains by the wind. They are sometimes two or three feet in diameter, and frighten horses as they roll about.

Horn,
Bones,
To cook,
Tired (I'm tired),
Get up (from lying down),
To cry,
Come on ; come, come,
Seize it,
Sit down,
Walk about,
Run,
Sit down,
Give,

Nulgah-nulgah.
Prindah.
Noah.
Emer colla.
Tingerré.
Neera.
Keerathau, keera keera.
Wortoo.
Thurré.
Thurné.
Cal-ya-cal.
Neengo-colla.
Nooko.

PARTS OF THE HUMAN BODY.

Head,
Hair of head,
Forehead,
Eyes,
Eyelash,
Nose,
Septum of nose,
Stick for nose,
Nostrils,
End of nose,
Mouth,
Lips,
Upper lip,
Tongue,
Teeth,
Beard,
Ear,
Neck,
Larynx,
Chest,
Breastbone,
Breasts,
Throat,
Saliva,
Belly,
Navel,
Penis,

Thirta-walla.
Tarter-burlke.
Merry.
Maki.
Paku muller.
Mendi mullar.
Pinga.
Minde-ara.
Worldy.
Menda murroo.
Yelka.
Min-mi.
Moornoo.
Tarra-langi.
Mindi.
Worka-bulki.
Uré.
Poomba.
Purla-lamba.
Nambi.
Tongoroo.
Namma.
Pernba.
Niléka.
Moon-dah.
Wor-lun-gora.
Mendi.

Testicles,
Female ext. org.
Perineum,
Anus,
Back,
Groin,
Shoulders,
Arm,
Right arm,
Left do.,
Forearm,
Elbow,
Hand,
Armpit,
Thumb,
Nails,
Buttocks,
Back of thigh,
Front of thigh,
Knee,
Leg,
Heel,
Sole of foot,
Top of foot,
Foot,
Toes,

Calla-burlé.
Pullé.
Munta.
Titté.
Multo-buna.
Nurloo.
Kurta.
Thurgti.
Nouranga.
Yourngoa.
Mern-ooo.
Coopa.
Murrah.
Ka-kin-yah.
{ Coon-did-ana-
munk.
Murlingé.
Coo-noo.
Theelda.
Monka.
Tingee.
Tingoo.
Wirta.
Poonda-deena.
Thirna deena.
Tidnah.
Whicha wichera.

Marks tatooed on back, Ninka.

Sick, ill.

Meeka.

NAMES OF TRIBES.

Darling Blacks below the junction of the Bogan for twenty or thirty miles, *Cornu*.

Tribe above the junction of the Bogan to the native fishery at Breewarrina, *Parran-binye*.

Tribes inhabiting the Mulgah scrubs, back from the river, and regarded with the most abject terror by the river blacks, *Mamba*.

Tribes on Namoi River, *Cam-ell-eri*.

What do you say ?
I cannot see it,
Give me plenty of water,
Make a great fire,
I cannot hear it,
To ease oneself,
Where is there water ?
Where is the camp ?
I want to make water,

Minnah owl parra-indu.
Na ta kela mortu.
Nooko noko noberta.
Wurndi curlah wirtoo.
Kela calerti na-ta.
Keeleo.
Wingera noko.
Wingera yappera.
Thurree tarné yipperra.

DISCUSSION.

Dr. CHARNOCK said: According to Dr. Pechey, the territory of the Cornu blacks is on the north bank of the Darling, from its junction with the Bogan to Toralie, which is about sixty miles further down the former river. He, Dr. Charnock, had compared the present vocabulary with that of the Woolner, spoken in North Adelaide, and also with Mr. Taplin's comparative list of words in seventeen languages spoken in Southern, Eastern, and Western Australia. The Cornu vocabulary contained a hundred and eighty-five words, the Woolner two hundred and thirty, Mr. Taplin's list only seventy-one. The words in the three vocabularies differed considerably. Only three Cornu words agreed to any extent with those in the Woolner: twenty-four words in the Cornu are found in some form or other in one or more of the languages in Mr. Taplin's list. Of these, seventeen agree with the languages spoken by the Marouras of the Lower Darling, nine with those in Blanchewater, eight with the Adelaide and Moorundee tribes of South Australia respectively, seven with the tribes of Lake Kipperamana, six with that of the Narrinyeri tribes, and four with the languages of Moreton Bay, north of Darling, Lake Macquarie, Parnkalla, and Swan River respectively. All the rest are under four. The two highest have an affinity with eleven, the lowest with only one language. The Cornu word *prindah* appeared to be used for both *thunder* and *bones*. Under *Parra-wortoo*—the Milky Way—the author of the Vocabulary made the following remark, "Supposed by the Cornu tribe to be another river, on the banks of which after death they rise again as white men. They point out places in the Milky Way which represent part of the Darling as the native fishery, etc."; and under *Butter-bir ruka*—Magdalen Clouds—Dr. Pechey says, "two old black women, who, for some misdeeds, were sent to the skies as a warning." Dr. Pechey gives a word for God (*Cool-a-booro*), and for Devil (*Booree*), which are not found in the two other vocabularies. Under the word for "God", he says, "I am not at all certain what is expressed by this word, except that it means the 'Master of all the Blacks and created things'; of his good or evil attributes I am ignorant. In Corroborries, for rain, etc., this is the power they invoke or hope to appease"; and under the word for Devil, he says, "I am by no means sure that this is a pure Cornu word. The blacks are afraid to call the spirits of evil by their names. The *Papilio Erectheus* is supposed to follow one of the evil spirits (*Yan-ta-muck e-gah*) about like a dog, and when the butterfly is seen, the evil spirit is not far off."

The following paper was then read:

CHINESE MOHAMMEDANS. By JOHN ANDERSON, M.D., F.L.S.,
Indian Museum.

THE earliest notice of the introduction of Mohammedanism into China reaches back as far as A.D. 757.* Sutsung, the then reigning prince of the Gung dynasty, was hard pressed by a

* Yule, "Cathay, and the Way thithor." I regret I have not had an opportunity to consult this book.

powerful rebel, but, while in deep difficulties, an embassy from the Caliph Abou Joffir al Mansoor, the founder of Bagdad, accompanied by auxiliary troops, fortunately arrived to his assistance and enabled him to defeat the rebel. These auxiliaries, however, appear to have given him a good deal of trouble, for we find that they pillaged the eastern capital Soyang and sacked Canton on their way to embark for their homes. But they never left China, for they discovered, on their arrival among their trading fellow countrymen at this town, that they were despised for their having so long associated with a swine-eating infidel population.

The reign of Tetsung, Sutsung's grandson, was nearly as unsettled, and there was nothing to be heard of but insurrections, and he was forced to augment his army by a great number of fresh troops, some of which were received from the Abbaside caliph, and to maintain which he had to double his taxes and impose one on tea.

The account given of China by the two Mohammedan travellers, Wahab and Abuzaid,* who arrived at Canfu or Canton in the middle of the ninth century, would lead us to conclude that the country had long been resorted to by Arab teachers. Even in those early times, the Arab community of Canton was one of considerable importance, for it had a judge or kadi appointed over it by the Emperor of China, and the Mohammedan, Jewish, and Parsee population massacred in 877 amounted to 120,000.

It has been stated,† however, but on what authority I have not been able to discover, that the Arabs were acquainted with China even before this period, and that they had visited it by land as early as the reign of Walid (708), who sent an embassy with valuable presents to the Emperor by way of Kashgar.

Mohammedanism was little known among the Tartars before the time of Chengiz Khan, but his conquests were the means of introducing a considerable Turkish population of Oaijours and Toonganees into the provinces of Shensi and Kansu. The former tribe had abjured Buddhism about two centuries and a-half before the conquest of China by the Tartars. The religious life, and indeed the individuality as a race of these new comers, was kept alive by the vigorous teaching and political intercourse that subsisted in these early times between China and their mother country, and other Mohammedan lands to the west.

With this large increase of Mohammedan population to that already introduced by the Arab traders and the contingents of the Abbaside caliphs, it is not to be wondered that the distinguished traveller, Marco Polo, was struck, when he visited China in 1271-1294, with the number of Mohammedans. In his

* "Ancient Accounts."

† "Chinese Repository," vol. iii, p. 109.

description of the people on the western verge of Shensi, where the celebrated mart of Segui (the Selui of Pallas) was situated, on the way between Tibet and Peking, in his account of the city of Signgan, the capital of the province, and of Karaian, part of Yunan, he describes the Mohammedans as forming a considerable part of the foreign population, but does not offer any opinion as to when they were introduced into the empire.

The position which this religious sect had attained in China, during his time (the reign of Kublai Khan) was considerable, for Polo informs us that the provincial governments and magistracies were entrusted to the Tartars, Christians, and Mohammedans. The latter, however, misabused their trust so much that the Emperor, reflecting on the principles of these accursed Saracens, forbade them to continue many practices conjoined on them by their laws. This interdict, however, does not appear to have affected their loyalty, for we find them praying for the welfare of the Great Khan on his birthdays, and some of their leading men, in accordance with Chinese principles of religious toleration, were advanced to positions of considerable trust in the civil, military, and scientific departments of the empire. For many years the Emperor's first Minister of Finance was an Arab, and we find the invasion of Burmah, and the sieges of Signgan and Fautching entrusted to Mohammedan generals, and another of their sect advanced to the distinguished office of President of the Mathematical Board.

With facts like these, and others of a similar nature which might be adduced, we have ample evidence to show that they had gained a firm hold in many parts of China by Marco Polo's time, more especially in the provinces of Shensi, Kansu, and Yunan.

Ibn Batuta is our next authority on the extent to which they had increased about the middle of the fourteenth century. He reached China by sea, and states that in every large town he found Mohammedans who were generally rich merchants, and that in all the provinces there was a town for them, and that each had usually a mosque, market, a cell for the poor, and sheikh Il Islam, and that in some districts they were exceedingly numerous.

Rusheedooddeen, the vizier of the Persian empire, in the early part of the fourteenth century, particularises Yunan province, and states that the inhabitants were all Mohammedans.*

The Jesuit fathers who were in China about the middle of the seventeenth century make frequent mention of the Mohammedan population. Lewis le Comte,† writing to the Lord Cardinal de

* "Edinburgh Review," 1868, p. 359.

† Le Comte, "Hist. of China," pp. 339, 341.

Bouillon (1680 A.D.), mentions that they had been about six hundred* years in the country, and that they were never disturbed because they never disturbed anyone else on the score of religion, but quietly enjoyed their liberty without studying to propagate their doctrine even by intermarriages out of their own kindred. At that time they were not considerable enough for either their number or wealth to have any such views,† and even in places where they were most numerous and made the best figure, as in the provinces to the north, where they had been settled for many generations, and in some of the towns along the canal, where they had built high mosques differing entirely from Chinese ideas of architecture, they were still looked upon as of foreign extraction, and had frequently been insulted by the Chinese.

The oppression to which they were subjected after the second Tartar conquest began to show itself so early as the beginning of the eighteenth century, when the populace in the city of Hang-chew, in the province of Huquang, upon some dislike taken at the indiscreet behaviour of some of them, destroyed the mosques, notwithstanding all the endeavours of the magistracy to prevent it. The earlier incident, however, about 1651, when they were deprived by the Tartar Emperor Shunchi of the high honours they had enjoyed for nearly three hundred years, in connection with the tribunal of Mathematics, seems to have inaugurated that change of policy that drove the Mohammedans to open rebellion in after years. The first of these occurred in 1765 or 1767, on the western frontier (Yunan?), in the reign of Keen-lung, and spread also to the province of Kansu. The rebels resisted the imperial forces with great valour, but were ultimately subdued.

The Abbé Grosier,‡ writing after this event, but without reference to it, says that for some time past the Mohammedans seem to have been more particularly attentive to the care of extending their sect and propagating their doctrine, a course which appears to me to have been forced upon them in order to enable them to withstand the oppression from which they were evidently suffering at the time the Abbé wrote. As the breach widened between them and their Tartar governors—for they appear to have been always on good terms with the Chinese—they became so exclusive that they would not suffer anyone to live among them who did not attend mosque.

The method they now resorted to to add to their number of the faithful was, not the rallying cry of the west, *deen deen*, but

* Du Halde, "China," vol. i, p. 678.

† "Universal History," vol. iii, pp. 122-123.

‡ Grosier, "China," vol. ii, p. 270.

the free use of their wealth in purchasing children, whom they circumcised and educated as Mohammedans. In the frightful famine which devastated the province of Quang-ting, in 1790, they purchased ten thousand children from poor parents compelled by necessity readily to part with them; and these they educated, and as they grew up provided wives for, and gave them houses, and even formed whole villages of these bought converts.* This system is still prevalent in Yunan and Ghad, numerous instances of it being brought under my notice while at Momien, the most westerly stronghold of the Panthays.

The native officer in charge of the police guard, a most rigid Mohammedan, was accompanied by his Burmese wife, and owing to his intimate acquaintance with the ceremonial details of their religion, was in great vogue among the Panthays. He was childless, and accordingly a little Chinese girl, who had been lately purchased from poor parents, was made a Mohammedan and given him as an heir, as one of the most appropriate gifts they could think of making in return for the many prayers he had offered up for them in their mosque.†

Gutzlaff‡ mentions that during his residence in China (1825-1832) they had several mosques in Che Keang, Pi chi le, Shensi, and Kansu, but that, as they had occasionally joined the rebels of Turkistan, the government viewed them with a jealous eye. Nevertheless, some of their community were in offices of high trust. Notwithstanding the great distance they live from the native country of the prophet, Gutzlaff informs us that many of them made pilgrimages to Mecca, and returned with Arabian manuscripts and wonderful stories about the grave of Mohammed; that a few could read Arabic imperfectly, and perhaps repeat the first Sura;

* Du Halde, vol. i, p. 678.

† Yunan appears to have been the scene of almost incessant insurrection from 1817 to 1834, wholly attributable, in all probability, to the Mohammedans. The first rebellion lasted from 1817 to 1818, when the rebels seem to have had some organisation, for they attacked the capital, in which the Chinese commander had shut himself up. A force, however, coming to his assistance, he routed the rebels, who sought refuge among the tribes on the western frontier, leaving their leader in the hands of the Imperialists. A proclamation was issued, promising the tribes protection if they discountenanced the rebels, and threatening them with destruction if they harboured them. The Pekin gazettes notice a disturbance on the western frontier of Yunan in 1826, and another in the following year. A more serious revolt broke out in the same quarter in 1828, and the leader had an imperial seal engraved, under which he published manifestoes on the frontier and Cochin China, inviting people to join his standard. This rebellion, however, was also suppressed. The Governor of Yunan quelled another revolt in 1826, and again in 1834, and the gazettes contain notices of other disturbances in the province. In none of these documents, however, is it stated that these rebellions were due to the Mohammedans, although it is highly probable that they were.—“Chinese Repository”, vol. iv, p. 490, et seq.

‡ Gutzlaff's “China”, vol. ii, pp. 199-200.

that they were by no means bigoted or proselytising, or scrupulous in the ancestral rites and venerating Confucius.

In the present century they appear to have increased more rapidly in Yunan than in any other province to the north, and the population appears to be possessed of considerable trading enterprise. Caravans from Yunan visit Mandalay regularly once a-year, and Colonel Burney* relates that in 1831 almost the whole of the Chinese traders to that city were Mohammedans, a circumstance that struck him as very extraordinary. The few only who imported hams were not Mohammedans, all the rest were regular Mohammedans refusing to eat with the Burmese, and killing their meat according to Mohammedan rites. Several of them, he relates, could read a little Arabic, and one in a loud chanting voice read a passage to him from some religious book in that language. They could, however, give him no account of the time when, or the manner in which, they were converted to the faith.

The first detailed account of the Mohammedans of Yunan who have given rise to these remarks was communicated by Major-General Fytche,† on information partly supplied by Major Sladen, the Resident at the Court of Mandalay, and procured by General Fytche himself from a few Panthay traders he had met at Moulmein. This communication has since been the subject of an able article in the *Edinburgh Review*‡ on Western China, in which the facts in General Fytche's paper have been reproduced and commented on.

Two accounts of the origin of the Mohammedans were given, one derived from Chinese, and the other from Panthay sources. The former has about it all the air of circumstantiality, but the latter is overladen with the mythical and oriental trappings of a religious tradition, but when divested of these it appears to be identical, to all practical purposes, with the Chinese narrative which may be briefly stated as follows:—About one thousand years ago a rebellion threatened the safety of the government of the reigning Emperor Oung Loshau, who sent for assistance to a Mohammedan king, called Razee, or Khazee, who governed the countries to the east of China. The appeal was successful, and a body of ten thousand fighting men was despatched to his aid, and the rebellion was quelled. A new difficulty now presented itself, as to the disposal of the contingent, which was much reduced in numbers, and because the members of it refused to return to their own country, as they had learned that they would be despised on their return, on account of their long association

* "Gleanings of Science", vol. iii, p. 184.

† "As. Soc. Proc.", 1867, p. 176.

‡ "Edinburgh Review", cxxvii, p. 357.

with a swine-eating population. They were, therefore, sent to the province of Yunan, where they settled and became peaceful subjects of the Chinese empire.

With these facts before us, our first endeavour is to identify the dynasty in which these events are said to have occurred, but a difficulty meets us in the very outset of the inquiry, for the first part of the so-called Emperor's name is not that of any Chinese dynasty we know of, and the difficulty increases when we come to the name itself, for there is no name in history of an emperor called Loshan. We find ourselves in equal perplexity when we attempt to locate the King of Razu or Khazu. I am, therefore, inclined to suspect that General Fytche's informant had little acquaintance with their early history, a suspicion which is fully borne out by the information I received from Susakon and the Hadji at Momien,* which has this to recommend it, that it agrees with the records of the Chinese dynasties, as given by Du Halde and other Jesuit fathers, whose materials, I suppose, were derived from the Imperial chronicles.

My informants stated that their forefathers came from Arabia to China a thousand years ago, in the reign of the Emperor Tung-Hwone-tsung, who had sent his chief minister, Kanzu, to Seejoogmet to implore aid against the rebel Unloshan, and that they numbered three thousand men.†

When we compare the leading facts in this statement with Du Halde's narrative of the Gung dynasty, to which Hwonetsung belonged, we cannot fail to be struck with the remarkable agreement between the two accounts, although the historian of China makes no allusion whatever to the employment of an Arab contingent in the suppression of the rebellion.

Du Halde writes the name of the Emperor Tung-hion-tsung, but the similarity to Gung-hwone-tsung is so great that we cannot question their identity, especially when we consider them in conjunction with the events recorded by the historian and my informants. The former records that Hion-tsung was a prince of singular temperance and zeal for the public good, but that, in the last fourteen years of his reign, the Empire was disturbed by an insurrection which had been raised by a foreign prince, Ngaun-

* I may state that I took the precaution to write all my questions, and to have them translated into Chinese; and that each question had its answer written opposite to it; and that the answer was founded solely on the original questions, which were put pointedly: *e.g.*, In the reign of what emperor did the Panthays arrive in China? *Ans.*, In the reign of Tung-hwone-tsung.

† Major Sladen obtained, unknown to me, a short document, giving an account of the introduction of the Mohammedans into China, agreeing in every particular with the above account, which I procured quite independent of Major Sladen, or any printed document, and direct from the Governor and Hadji.

loshan, to whom he had entrusted the command of his army. This traitor made himself master of a great part of the north, and ultimately routed the Imperial army; and a company of robbers, encouraged by these disasters, also attacked it, and compelled the Emperor to seek safety in the province of Sechuen. After his retreat, Sotsung, his son, took possession of the government, although his father was still alive; and, with the aid of his prime minister, Ko-tsû-i, he dispersed the robbers, restored public tranquillity, bringing his father back from Sechuen to his palace. Ngau-loshan, however, does not appear to have been quelled, for we are informed that he looted the palace of Chang-ngau. In the end, his treachery to his king did not go unpunished, for he perished by the hand of his own son.

If there can be little difference of opinion about the similarity of Hion-tsung and Hwone-tsung, there must surely be quite as little regarding the identity between Ngau-loshan and Un-loshan, the only rebel of this name in Chinese history.

With these facts before us, it seems probable that General Fytche's Oung-loshan was the rebel and not the emperor, and that the certain king Razu, or Khazu, was the prime minister Kanzu. The circumstance also that Ngau-loshan's insurrection is mentioned by Du Halde as having been protracted into the reign of Sutsung is indisputable evidence that the incident related to me by the Mohammedans at Momien is the same as the one given by Yule in his work on Cathay.

Although my informants stated that their forefathers had come in the first instance from Arabia, they mentioned, with equal clearness, that they had come to Yunan from the provinces of Shensi and Kansu, about one hundred and fifty years ago, a circumstance which would make us doubt the purity of their boasted Arab descent, for the whole weight of historical evidence is to prove that these two provinces derived the greater part, if not the whole, of their Mohammedan population from the tide of Turkish conquest which overran the northern provinces of China. We have, however, Marco Polo's and Rusheedooddeen's authority for the existence of a large Mohammedan population in Yunan in the thirteenth and fourteenth centuries, four hundred and forty years before the date assigned by my informants for their arrival in the province. We are led, therefore, to suppose that the ranks of the original Mohammedan population in Yunan, which may have been of Arab descent, were augmented about the beginning of the eighteenth century by a number of Turkish Mohammedans from the northern provinces of Kansu and Shensi, that the two elements rapidly amalgamated, and that their fusion was so complete that their respective traditions became as much blended together as the races themselves.

And here I cannot avoid remarking that the origin of the original Mohammedan population of Yunan and other provinces, leaving out of sight for the present Sutsung's contingent, as it is usually accounted for, viz., on the theory that it percolated in from the sea-board, seems to be a one-sided explanation, when we remember that the Nestorian Christians had found their way overland to the province of Shensi as early as A.D. 636. The circumstance that it has never been claimed for the Nestorian Christians, that they necessarily percolated into China from the sea-board, seems to militate against such a claim being put forward exclusively on behalf of the Mohammedans; for what the Nestorian Christians achieved could also be accomplished by the devotees of the prophet.

With regard to the origin of the Yunan Mohammedans, the mere circumstance that the more learned among them, such as the Hadjis, knew a little Arabic, appears a frail basis on which to rest their claim to an Arab descent, the more especially as it has to be shown that the Mohammedans of the northern provinces are not quite as familiar with this language as their southern co-religionists. The great charm Arabic has to these people is bound up in the circumstance that the prophet spoke it, and that it is the one in which all the religious books brought back by their pilgrims are written.

The circumstance that these Mohammedans of Yunan claim kindred with those of Kansu and Shensi, is one which seems destined to exercise a powerful influence on the future of the Chinese empire, and the present course of events points in the direction of the establishment of a Mohammedan monarchy which will comprise the provinces of Yunan, Sechuen, Shensi, and Kansu. This contingency was forcibly suggested to me from the facts I gathered while at Momien. The whole of the province of Yunan, we may say, has been conquered by the Mohammedans, who were then turning their attention to the southern portion of the province of Sechuen, which they had previously overran, about six months before the visit of Col. Larel in 1861. The northern portion of the province was devastated by Mohammedan rebels from Shensi and Kansu in the early part of 1868.

The Toonganee rebellion in Dzungaria is so intimately bound up with Russian interests in Central Asia, that we may look for its suppression by that power.

We come now to speak in detail of the Yunanese Mohammedans. The term Panthay, applied to them by the Burmese, and adopted by the English, means simply Mohammedan. On the authority of General Fytche, they are known to the Chinese as Quayzay, which the writer in the *Edinburgh Review* conjectures

to be identical with Hoai-hoai, the generic term applied by the Chinese to all Mohammedans. On looking into the subject, I find that there are two Chinese words very similar in sound, but with entirely different meanings—Quayzse and Hoaizse, and that the use of the first as applied to the Mohammedans is incorrect. Quayzse means a foreigner, and is not used when speaking of them, whereas Hoaizse is constantly applied. Before the rebellion Hoai-hoai was the term in use, but now in rebel districts they are only known as Hoaizse, the affix *zse* meaning independent of Chinese authority. It is the same termination that occurs in Mautzse, Tibetan; Tatzse, Tartar; and Miaoutzse, all of which are independent tribes, and are indicated as such by the terminal syllable *zse*.

The rebellion in Yunan seems to have been brought about solely by the oppression to which the Mohammedans were subjected by their rulers. Riots occurred, in which the mosques of the Mohammedans were despoiled; and this roused their religious hate, and ultimately led to the complete destruction of nearly every Buddhistic temple in Yunan.

As the rebellion spread, the Chinese towns and villages were pillaged, and indiscriminate slaughter overtook the male population, the women being spared to minister to the passions of a brutal undisciplined mob, while the unresisting children were eagerly preserved to be educated as Mussulmans.

The desolate and ruined villages between Nantin and Momien, and the almost unbroken line of deserted towns and hamlets encircling the once smiling and busy valley of the latter city, are incontrovertible evidence of the relentless ferocity with which the Panthays prosecuted the rebellion. They met with little direct resistance from the Imperial Government, although twice the Chinese officials in the province, with a remnant of adherents, were gradually driven from the high fertile valleys, to seek refuge in the smaller and more inaccessible ones, among the mountains, to which in time they were followed by other adherents of the Imperial cause. As years passed on, and the Panthays extended their power throughout the principal valleys, a constant guerilla warfare was maintained between them and the Chinese officials, whom the Panthays now style robber chiefs, from the circumstance that they take any opportunity to pillage Panthay villages, petty traders and caravans, and even make raids to the very walls of Momien. Prominent among these called dacoit leaders is the famous chief Seesetai, who till lately had his fortress at Mauphoo, half way between Muangla and Nantin, and Sowquangfang, who has his stronghold still nearer Momien. The hatred that exists between these two chiefs and the Panthays is constantly making itself felt in raids that

have effectually paralysed trade, reduced the cultivation of the valleys to the lowest ebb compatible with the small wants of a miserably impoverished population.

At Momien and its neighbourhood, and from what we observed in the Shan States, it is evident that the fury of the Mahommedans was ultimately directed against the Buddhistic temples and monasteries; and I may safely say, from personal observation and information gained at Momien, that very few escaped destruction. The Shans, although they did not side with either party, were not exempt, and their temples and the places of their Trawkurs as well, were looted, and either burnt or razed to the ground.

While mentioning the Shans, it may be as well to state that it does not appear that either they or the Kakhyars ever joined or gave any assistance to the Panthays during the height of the rebellion, for the sympathies of their people are entirely on the side of the Chinese, and it is only within the last two years that the Shan States, in the Sunda and Hatha valleys, and the Kakhyars on the neighbouring hills, have given in their adherence to the Panthay cause, and agreed to pay tribute to them instead of to the Chinese.

The rebellion was still active while we were at Momien, and the capital of the province fell to the insurgents during our residence among them. If the account they furnished us of the taking of that great city, Yunan, is to be relied upon, it was conducted with the utmost moderation, and suggests the hope that the Panthays are beginning to realise that their position in the province is so far established that it is both politic and expedient for them to gain the favourable opinion of the people by a just consideration for the conquered, and a laudable moderation.

Vigorous hostilities were being carried on on the road between Momien and Yungchau, which was quite impassible; for out of three messengers with despatches from Tali, two were killed, and the other escaped with great difficulty.

In order that there may be no misconception as to the position of the Panthays in such outlying districts as Momien, I will briefly describe affairs as we found them in that city, which is about a hundred and twenty miles from the Burmese frontier. During our residence two thousand men, under the command of the chief military officer, marched against a body of Chinese who were threatening the Panthay town of Kayto, about thirty miles north-west of Momien, and three hundred of the ears of the latter were secured as indisputable vouchers of the victory they had gained. Moreover, fifteen executions took place during the forty-six days we were there; and thirty mules that were grazing on a hill-side close to the city were carried off by a body of

Chinese, before the eyes of a Panthay armed guard in charge of them ; and, moreover, so great is the insecurity of life, that we were not allowed to go beyond half a mile from the city without the protection of an armed escort, under the charge of a responsible Panthay officer.

Before the fall of the capital, the district in its neighbourhood had been the scene of great devastation and bloodshed. One hundred villages, besides all those between Bonuyin and Chankho, and thirty-seven towns and cities were captured, and it is significantly stated in the proclamation from which I derive these particulars, that the inhabitants of those that tendered their submission were spared, leaving us to infer that those who resisted were either put to the sword, or perished in the flames of their burning homesteads. Twenty-one thousand are stated to have been killed, and it is also mentioned that forty towns were taken and destroyed, that three hundred persons were burnt to death, and that there were innumerable killed and wounded besides.

The Panthays were then opposed by fifty or sixty thousand Imperial troops, who had succeeded in retaking the towns of Wootee and Sawsee ; but it is evident from the whole tenour of the document, that the Chinese were unable to contend against them, and the surrender of Yunan city by its officials was a telling recognition, on the part of the inhabitants, of the inevitable progress of the Mahommedans.

The fighting, however, at this time, 1867-8, was not confined to the Momien and Yunan districts, for Mr. Cooper informs me that while he was at Weeree, on the left bank of the Cambodia, in the north of the province, in July, 1868, that the Panthays and Chinese were engaged in active hostilities at Jseegooshan and Leejanfu, almost on its extreme northern outskirt. During the same month I learned at Momien that the Mahommedans had spread into the neighbouring province of Sechuen, into which they had formerly made a raid, along with the Miaoutzia, so far back as 1860. On that occasion they crossed the river at Pingshan.

The Panthays have spread as far as Theta in the south of the province, four or five days' march to the north of Kyaingyunggyu, on the Cambodia, so that the whole of Yunan is in open rebellion ; and as this is not an event of yesterday or to-day, but has existed for the last fifty years and even before this, I leave it to those interested in the scheme for opening up a trade between China and Burmah, *viâ* Yunan, to form their own conclusions as to its practicability in the present unsettled condition of the country.

With reference to the internal affairs of the Panthays, it is

now well known that a Hadji, Ma Yussa by name, was elected a few years ago to the responsible position of king, and that he holds his court at Talifu. He is known to the Mahommedans as Sooleymann, and to the Chinese as Tuwintsen. Four military and four civil officers, or what the Chinese call mandarins of the first class, are associated with him in the government; and the former have certain districts allotted to them, but any matter of importance is referred to Talifu, where the King has the advice of his Civil Counsel of Four.

The governorship of Tengyechew (Momien) is the most important. Its holder wears the official robes of a Chinese military mandarin of the first class, and keeps up a show of state in a small palace within the city, which was almost entirely destroyed at the outbreak of the rebellion in 1853.

Tasakon, the present governor, is always attended by a number of military officers, all young men devoted to his service. As in the case of the other governors, he is supreme in all matters civil and military, but the command of the troops at Momien is entrusted to an officer with the title of Thazayinhyee.

All criminals and persons suspected of Chinese sympathies are brought before the governor for judgment, and his sentences are carried into effect by the military who have charge of the prison. If the sentence is capital, the uncompassioned criminal, with his hands tied behind his back, is at once led to the outskirts of the bazaar by a small escort, with music and banners flying, and is made to kneel by the side of the road, and has his head struck off by one swoop of the executioner's dah, and is then buried on the spot. If taken in the act of dacoity, he is executed without any trial, and the ghastly head is usually hung up by the side of the gate of the city as a terror to evil-doers.

The male portion of the Panthay population is almost exclusively military, and resides within the city. A constant watch is kept from guardhouses over the gates, two of which have been built up for greater safety; and the bazaar outside, in which the Chinese population which has given in its adherence to the Panthay cause resides, is also enclosed by a low brick wall, with a number of gates, that are closed at dark, and under the care of sentinels.

It does not require any very lengthened observation or inquiry, and, indeed, a few days' residence at Momien suffice to impress one with the fact that the government is entirely in the hands of the soldiery; that the hold the Panthays have on the district is still so precarious that they are liable to be attacked at any moment, and that the feeling among the Chinese traders and merchants, and of the peasantry generally, is unfavourable to them.

The Panthays at Momien are generally well-made, athletic men, of moderate height, and all are fair-skinned, with slightly oblique eyes, and high cheek-bones, with a cast of countenance quite distinct from the Chinese. Their general type of face recalled to me those one meets with among the traders who came down to Calcutta from Bokhara and Herat. They usually wear a moustache, but pull out, in Chinese fashion, all the rest of the hair on their faces.

The Hadji at Nantin, however, went unshaven in true Mohammedan style. The hair of their heads is usually allowed to grow long behind, and is coiled in the folds of their ample white turbans, which project outwards, nearly on a line with the shoulder. They wear the Chinese jacket and short trousers, and have the lower part of the leg, above the ankle, bandaged with blue cloth in the same way as the Shans. A bright, orange-yellow waistband, in which they usually carry a silver-mounted dagger, and Chinese cloth shoes complete the costume. Their women dress after the fashion of their Chinese sisters, and any I have seen of the better classes had small feet.

The governor has four wives, who are carefully excluded from public gaze. He is fully six feet three inches in height, and of commanding appearance. His face and hands are very dark, from exposure, but the general colour of his skin is quite as fair as the fairest Chinese. He has the oblique eye, his lips are heavy and rather protuberant, while his face is a decided oval, with high cheek-bones. His hands are large, and his forehead is small and retreating. He may be said to be the hero of a hundred fights, and his numerous scars are speaking proofs of his courage. A deep indentation between his eyes marks where he was hit by a spent bullet, a round hard thing like a small marble over his ribs, and another, in one arm, are two other gunshot wounds. Scars on his legs and arms testify to hand in hand encounters with the formidable dah. He is quiet, self-possessed, with a determined will, sound sense, and great natural dignity of bearing, and he at once impresses one as being a man born to command.

The Panthays profess to be strict observers of the laws of the Prophet, and abstain, as a rule, from strong drink, tobacco, and opium; but on one occasion, when we were feasted by the Tahsayinhyye, he drank with us out of a large jug containing a peculiar but pleasant warm preparation of spirit, and kept the bowl circulating till we had drained it to the dregs. My curiosity prompted me to examine these, and I was rewarded with the unpleasant discovery that they were largely composed of small pieces of pork fat and walnuts. Our host had a particular *godt* for the beverage, and, I suppose, with more wisdom than we, was careful to avoid any inquiries into its composition.

Before the rebellion they had a mosque built in a style quite distinct from the Chinese, and, I suppose, after plans brought home by their Hadjis. Now, however, the prayers are said in a building thoroughly Chinese in all its details, and in the verses from the Koran written in Chinese, we had evidence that Arabic is not very generally cultivated; indeed, there was only one Hadji at Momien who made any pretensions to know it so as to be able to speak it.

The presence of our Jemadhar was a great godsend to the Panthays, and the demand for his services at the mosque was so great that he entirely lost the use of his voice, to the grievous disappointment of the celestial Mohammedans. He frequently lamented to me the laxity that prevailed among them, and my native doctor held them in supreme contempt, and used to assert that they were no Mohammedans.

They were full, however, of kindness to their fellow religionists in the guard, without distinction, and did everything for their comfort. On our departure, a few of the officers accompanied us nearly a mile from the city, and wept bitterly as we left them, and our last sight of Momien embraced these tender-hearted men anxiously looking after us from the spot on which we had parted from them.

I will refer to only two other aspects of the Panthay character, which are encouraging to think of, when we contemplate the possibility that they may ultimately become a distinct power in Asia; strange to say, born on the very soil of the most exclusive and conservative people that the world has ever seen. I refer to their strict honesty in all trading transactions, to their abilities as traders, and to the keen appreciation they appear to have of the benefits which are likely to accrue to them from commercial intercourse with other nations. Their honesty requires no comment; but to illustrate their consideration for traders, I may mention that I was informed by a Chinaman who was travelling in the north of Yunan during the rebellion, that a large caravan on its way to Eastern Tibet had occasion to pass where the Panthay and Chinese forces were opposed, and, as my informant put it, the Mohammedan general desisted for a day from attacking his adversary, in order that the caravan might safely pass. He mentioned as well that the Mohammedan mandarins, in those portions of the north of the province which have had occasional periods of peace, are not nearly so much dreaded by the merchants as the Imperial ones, and that they feel themselves safe from inordinate extortion whenever they reach their jurisdiction.

The Panthays speak Chinese, and, as a rule, know no other language, and, if the account we have given of those found in Yunan is correct, we have the remarkable fact of a race of Arab

and Turkish descent speaking Chinese, we need hardly say to the entire exclusion of the mother tongues of those races.

DISCUSSION.

Dr. CHARNOCK said the author of the paper seemed to be opinion that the Mohammedans of China came direct from Arabia. Some of them, however, might have entered through India and Burmah, or by way of Independent Turkestan, or Tibet. In the tenth century, the Tibetans embraced Islamism for twenty-five years. Mr. Anderson referred to Jenghiz Khan and the Uigurs, who, by-the-bye, were the base of the Ottoman Turks. Their original habitat was Khamil or Hami in Chinese Turkestan. Other Mohammedans may have come from the seaboard. The Arabs, without doubt, had intercourse with China as early as the first half of the fifth century. They formerly traded to a port called *Zeitun*, which Klaproth thought to be the same with *Tsze chung*. Hence the Arabs are said to have brought the olive, called in Arabic *zeitun*. It may have been the port now called *Lien-tchou-fou*, in the Gulf of Tonquin. The Mohammedans of China did not understand Arabic, and there was no copy of the Kurán in Chinese. It was probable that in each town a priest was able to repeat a few lines of the Kurán, which was all that was necessary to carry on the religious services. It was the same with the Buddhists. The services were performed in the Fán dialect, which was quite unintelligible to the followers of the faith. The word *mandarin* was not Chinese. Such a word could not be formed in that language. It was an appellation given by the Portuguese to officers called by the Chinese *khwan*. A good deal of information as to the intercourse between the Arabs and Chinese would be found in the voyages of Ibn Batuta and Father Odoric, for which Colonel Yule's work on Cathay might be consulted.

Mr. Wade, Dr. A. Campbell, and Mr. Hyde Clarke, also joined in the discussion.

Mr. EDWARD CHARLESWORTH exhibited a collection of Anti-quities from Mexico.

Mr. J. MCK. HUGHES exhibited a stone implement found in the bed of the Elwy, near Pont-yl-allt-Goch, North Wales.

The meeting then separated.

MAY 15TH, 1871.

GEORGE HARRIS, Esq., V.P., *in the Chair.*

THE Minutes of the last Meeting were read, and confirmed.

The following New Members were announced: ANTHONY OWST ATKINSON, Esq., LL.D., etc., Kingston-upon-Hull; and JAMES TEMPLE, Esq., 62, Belsize Park Gardens, and Lazewood Park, Tunbridge Wells.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the EDITOR.—The Food Journal, No. 10, vol. iii.

From the SOCIETY.—Journal of the Asiatic Society of Bengal, part i, No. 4.

From the AUTHOR.—A Memoir on Indian Survey. By Clements R. Markham.

From the EDITORS.—Archiv für Anthropologie. 1871.

From the SOCIETY.—Monthly Notices of Papers and Proceedings of the Royal Society of Tasmania. 1868-9.

From Hon. E. G. SQUIER.—Annexation of Santa Domingo.

From the SOCIETY.—Mittheilungen der Anthropol. Gesells. in Wien, No. 8.

From the AUTHOR.—Della Capacita dell' Orbita nel Cranio Umano. Prof. P. Mantegazza.

From the AUTHOR.—The Pharaoh of the Exodus. R. J. Campbell.

From J. F. COLLINGWOOD.—The Darwinian Theory Examined. Anonymous.

From the EDITOR.—Nature, to date.

From the INSTITUTE.—Journal of the Royal Institution of Cornwall, No. 12.

From the SOCIETY.—Proceedings of the Royal Society, No. 128.

From the EDITOR.—Revue Bibliographique Universelle, vol. vi, part 6.

The following paper was read:

On DIVINATION and ANALOGOUS PHENOMENA among the NATIVES of NATAL. By the Rev. Canon HENRY CALLAWAY, M.D., Local Secretary of the Anthropological Institute.

OF all the various branches of natural history, there are none so calculated to interest man as the natural history of Man. And of all the various subjects comprised in the term, "the natural history of man", there is perhaps no one more interesting, and at the same time more difficult to investigate, than those phenomena which result from his mental endowments.

There are certain extraordinary mental phenomena which have

occurred at all times, and in every stage of human culture and condition of society, in which all have more or less believed, but about which there have been the most diverse opinions. Some have been disposed to treat all such phenomena as delusions, or as something bordering on insanity. Many have sneered at them, and tried to laugh them down. Some have ascribed them to imposture, and have refused to believe in them at all; whilst others have most devoutly believed in them, and supposed them to be occasioned by visitations from the spirit-world; and the witch has been supposed to have communion with the devil, and to have obtained from him in barter for her soul some worthless power of doing evil for the mere sake of doing it, notwithstanding the utter impossibility of understanding the value of such a bargain to either of the contracting parties. And the diviner has been supposed to be indebted for his knowledge to good or evil spirits, according to the character of his divinations.

The disposition to believe in spiritual agencies as a means of escaping from the necessity of patient observation, and the labour of collecting facts and tracing them to their causes, has very much diminished of late years. It was a great mistake at all times, and has at all times led to confusion, misunderstanding, and suffering to refer any peculiar phenomena either in the outer world or in the human mind to the direct agency of supernatural good or evil powers, who are supposed to override or set aside the ordinary laws of the universe, and come in with a special agency to effect some special object.

Having a conviction of the absolute harmony and, if I may so speak, legal administration of the universe, I feel no disposition unnecessarily to call in spirits to explain such phenomena, or to look to the exorcist to prevent their recurrence. For many years I have had my attention directed to such phenomena, and I have asked myself whether they may not all be referred to some common law of human nature. At any rate, I am persuaded, it will be better to believe this and to work towards it. At the same time I hold it to be utterly unscientific to deny the existence of spirits, or to refuse to allow the possibility of their playing any part in the affairs of man. The pure physicist tells us that it is out of his sphere to determine whether there are such spiritual entities or not. His work lies among material facts; he cannot collect facts from the spirit-world. This may be so; and undoubtedly so long as he finds natural conditions sufficient for the explanation of such mental phenomena, he wisely abstains from seeking for other causes. But if he cannot collect facts to prove the existence of spirits, nor trace evidence of their continually traversing the order of things in this lower world—at least he cannot disprove this existence. Such facts may elude his obser-

vation, or he may not yet understand how to search for them, or what kind of facts to look for. It would be therefore unscientific in him to act the dogmatist, and to imagine that his ignorance or incapacity has proved a negative. And for my part, I accept the arguments of the metaphysician as having amply proved the existence of a spiritual entity in man, distinct from the material organisation, in which it works and by which it is brought into relation with the external world. And I shall always speak in this belief in the following paper:—

The subject which I propose to discuss before this Society is, "Certain Mental Phenomena occurring among the Natives of Natal, and which form the Basis of their System of Divination."

But before I can well apply any facts to the support of my theory on the subject, I must discuss some preliminary matters in connection with certain other phenomena, which I suppose to be analogous, and by understanding the real nature of which we may at last be helped to get a glimpse of the possible explanation of the more difficult phenomena.

I propose, then, to speak of, 1, Dreams; 2, Sympathy; 3, Pre-sentiment; and I think, as we go along, we shall see that most of the mental phenomena, which form the subject of this paper, may be arranged under one or the other of these heads.

1. *The Dream*.—None of us believe that a dream is occasioned by the actual presence of the object of which we dream. Yet it is a very common opinion throughout the world, and was probably at one time universally believed, that a dream results from the object coming to us, or that our spirit goes to the object; as when we dream of being carried away by the molten lava of a burning mountain.

Thus the natives of Natal believe in the real objective presence of the person of whom they dream. And one of the great arguments used by those who have but little faith in the legends of the people, against the Stongo, or spirit of a dead man, being a snake, is founded on this mistaken idea of the nature of a dream: they say the dead man always comes to them in the form which he had whilst living, and therefore he has not been turned into a snake.

But what is a dream? Let us coin a word, not altogether unobjectionable, I allow, but a word which will express in one what a dream really is. A dream is—brain-sensation. In the brain we find the real seat of the senses. It is there, and not in the distal extremities of the nerves, not in the organs of sense, that the mind takes cognisance of external things.

A step further. These conditions of the brain, usually resulting from impressions conveyed to it from external objects, may exist without such objects being present. In many diseases the pa-

tient, without the action of any external objects, has impressions such as are ordinarily produced by their presence. There may be a disagreeable smell without anything to produce it, noticed by the patient only. He may have strange or painful sensations in various parts of his body without any external cause. He may see persons or things, familiar or strange; or hear sounds articulate or otherwise.

This, then, is what I mean by brain-sensation—a condition of brain which, without external causes, is attended by feeling, hearing, and sight, just as it would if there were external causes in operation, capable of producing such sensations. This condition of brain, which produces the dream, may be absolutely subjective, or only partially so. It is absolutely subjective when it is produced by the memory and imagination. It is partially so when something external, similar to or entirely different from that dreamt of, sets the memory or imagination at work. The memory in sleep is very peculiar, and sometimes calls up the past with a greater vividness than when the person is awake. When dreams are partially subjective, there is some external impression which determines the dream,—becomes a starting-point on which there is built up a fanciful combination. In all these cases we presume that the same condition of brain is produced, as would be produced if the objects dreamt of were actually present.

Let us pass from the dream—by one step. A person dreams of an absent or dead friend, he wakes suddenly, the impression of the dream remains; with open eyes and wakeful mind he still sees the image of the dead; and nothing will dissuade him from the conviction that he has actually seen a spirit.

But there are waking dreams. There are innumerable instances in which, entirely without the presence of external objects, the brain is impressed as though such objects were present. There is the same kind of subjective brain-sensation when a man is awake, as produces dreams when he is sleeping. The case of Nicolai, the bookseller, whose room was to him apparently always full of company, is well known to most. But these spectres—as I prefer to call them, rather than spectral illusions—are extremely various. Sometimes appearing for a moment only, and then vanishing; sometimes existing as a permanent companion; sometimes solitary and unvarying; sometimes in large numbers, and of an ever-changeful character.

There is another set of these spectres, which are only seen when the eyes are shut, thus excluding the possibility of their being occasioned by external things. These, as well as the others which I have been mentioning, are met with for the most part in disordered, generally exhausted, or super-excited condi-

tions of the brain; and many who have been subject to these brain-sensations either become deranged or die of brain-disease. Others have the power of calling up spectres when they wish—that is, they can, by an effort of the will, induce that condition of brain, which I have called brain-sensation. This is a very important fact in the investigation of the causes of such phenomena. Generally speaking, the subjects of these spectres can distinguish the spectres from real objects. But Dr. Abercrombie has recorded the case of a gentleman who was always accompanied by spectres, which he had great difficulty in distinguishing from real objects, so that if he met a friend he had to ask if it were he or his spirit!

Hitherto our attention has been directed to spectral vision or *brain-sight*. But there are mental phenomena of precisely the same nature, in which sounds and voices are heard. These sounds may vary from the tinkling of a bell, or a call of the name, to the constant, or almost constant, presence of a talking, though invisible, companion. It is very possible that the demon of Socrates, and the nymph of Numa Pompilius, are to be referred to this order of phenomena. And I am myself acquainted with persons who, when in certain states of mental exaltation, have long discourses spoken to them—in prose or verse—in such a way that they seem to be as much a something uttered without them and independent of the working of their own minds, as the harangue of an orator, and the reading of a poet. These are cases of *brain-hearing*—that is, there is, I presume, the same condition of brain as there would be if the sounds actually reached it through the ear.

You will see at once how this theory explains the case of those fanatics, who suppose they have received a call to do some great or good, or some debasing and wicked, thing—to evangelise the world, they being utterly unfitted by mental endowments, training, or religious or moral character, for such a work—or to overthrow the established order of society, expecting, but not having given to them, the power which the inner voices have promised them for the purpose of carrying out their ruinous projects. Such men are devout believers in the reality of these voices, which they suppose come from heaven, and that to disobey or to resist them is a sin against God.

There is another class of such phenomena to which I can only just allude. It is said that certain families and localities are the subjects of them. Thus, a death in certain great Irish families is said to be heralded in by the scream of the banshee; some in Scotland by a voice of a more plaintive and gentle character. Others have a visit from a headless lady dressed in white; or from a brown lady, or a white bird flutters at the window.

Then some particular localities are said to have their own spectres. These may address themselves to the eye or ear.

I confess I am unable to explain such matters as these. They require further investigation. The sound may be external,—real sound produced by some unknown cause. And local spectres, if they are seen by persons who know of the bad fame of the place in which they appear, may be explained on the supposition that they are mere instances of brain-sight, caused by the imagination. But when they are seen by persons wholly unacquainted with the history of such appearances, it is very difficult to know to what we can attribute such phenomena. But it is probable that if fully and cautiously investigated, either they would break down altogether, or we should be able to refer them to known, though at present concealed causes.

Let us now proceed to the second division of our subject, that of Sympathy and Presentiment.

It will be clear when I speak of sympathy, I am not intending to speak merely of that form of it which is produced by the external knowledge of facts, capable of calling forth sympathy or compassion. This is a kind of sympathy which requires no illustration. And it does not belong to the subject we have in hand, except in such cases as those in which it gives rise to remarkable phenomena of an epidemic character. But there is a sympathy of another kind, which brings people into relation with each other without external visible causes. And under the term Sympathy I here mean a being brought into communion with others, a having a common feeling with others, or having a consciousness, more or less accurate, of what is going on in places at a distance, or in reference to things with which the mind has no visible external means of communication. This far-sightedness may be as regards space or time; when it exists in reference to things going on at a distance, it is called sympathy, when in reference to things which are to happen by-and-bye, it is presentiment or prophecy.

And I think I shall be able to adduce a sufficient number of instances to satisfy you, that as in the dream there is brain-sensation, either entirely independent of external things, or only partially dependent on them, so there may be brain-sensations leading to a distinct consciousness of what is going on in the minds of others either present with us or absent from us; and also of places or of things without any visible external causes whatever. Or to bring the meaning of what I would say at once before you in one clear, distinct sentence—there is a power of clairvoyance, naturally belonging to the human mind, or, in the words of a native speaking on this subject, “there is some-

thing which is divination within man"; words strangely like those of Socrates, who, in his "Apology", speaks of "natural inspiration" as being that under which poets act as well as prophets and seers.

The most simple form in which this power is manifested is in those unreasoning sympathies which draw people at first sight to each other; there is a mutual consciousness of mutual adaptation one to the other. Or in those unreasoning sympathies which repel them, where there is a mutual consciousness of mutual unfitness one for the other. Or the sympathy and repugnance may be on one side only. We have all perhaps known instances in which a full, joyous, social intercourse has been damped or entirely stopped by the entrance of an unknown stranger, or, it may be, of a person well known, but who, from some unknown cause, by his mere presence, casts a depression over the company. All feel it. No one can explain it. On the other hand, perhaps, we have all known instances in which the presence of another, with or without words, seems to shed a genial glow around, to give a sense of comfort and support.

Then it is very commonly believed that blood relations can recognise each other by sympathy, and that, though having never seen each other, or having been separated from each other before knowledge existed, yet on meeting they feel a mutual attraction which leads to the discovery of their relationships. The belief in this sympathetic recognition of blood relations one of the other, is an article of the untaught Zulus' creed.

To the same class of phenomena belong those unreasoning apprehensions of coming evil, or anticipations of coming joy, which are sometimes realised. Then further, without any apparent reason, one is sometimes drawn to a certain place, or urged to do a certain thing, and remarkable results follow. Or without knowing why, we go and put our hand on something we have lost, and have for some time vainly searched for. Or we are held back from doing a thing, or from going to a certain place, sometimes against our will and judgment, sometimes with a distinct but unfounded presentiment of evil; and the result shows that the evil would have reached us, had we not attended to the warning. We must not, however, omit to note that it not unfrequently happens that such impressions are utterly wrong and unjustified by the result. They may not only be unreasoning, but utterly unreasonable.

The natives of Natal believe in this kind of sympathy, by which they are made conscious of what is happening at a distance from them; and there are certain recognised signs among them by which it is attended. Thus they may have an absent friend brought forcibly before them, as being in some danger, and

at the same time be affected with the coeliac passions. Or tears may come into their eyes without any known cause. Or there may be simply a something in them,—an inner voice, which tells them that their friend is ill or dead.

An old man who had cataract in each eye referred his blindness to the following circumstance. He said his son had gone out to battle. During the day he was suddenly seized with blindness, and felt at the same time a strong impression that his son was killed. This turned out to be the case.

Or sympathy with the absent may be felt only at night. During sleep he sees his friend, as he is lying sick or dead; and sometimes, it is said, if he has been killed, he sees the very wound that has caused his death.

Umpengula was engaged in service at Pietermaritzburg. He dreamt that he saw his brother Undayeni, dressed in his finest attire and dancing at a wedding. On awaking he had a strong impression that his brother was dead. He could not shake off the impression, and involuntary tears came continually into his eyes, and he looked constantly in the direction by which a messenger must come from his home. During the morning a messenger came. On seeing him, he said, "I know why you are come—Undayeni is dead." He was dead.

But here again I would point out what is a very important fact when we come to consider the real significance of such phenomena, that, on another occasion, he had a similar impression that he should receive intelligence of my own death, which, as you see, turned out to be false.

We all probably know more or less of what is called "second sight", which appears to be a kind of sympathetic and prophetic instinct—a natural clairvoyance. It is often an hereditary gift, and what is more remarkable, is often possessed only when at home in the northern island homes of the seers. When they quit there, the power of second sight ceases, to return again when they return to their native place. We thus have suggested to us another cause of these remarkable phenomena, that they may be excited by endemic or local circumstances. And we are reminded of the Delphic prophetess who became ecstatic, and gained her power of divination, such as it was, by inhaling the fumes which proceeded from a cavern over which the temple was built.

I have been told that a member of my own family possessed a somewhat similar gift, that is, she was the subject of impressions, and saw spectres, by which she knew beforehand and prophesied of deaths and marriages which would occur in the neighbourhood of where she lived.

Let us now proceed to consider certain phenomena which

occur among the natives of Natal : 1, phenomena occurring spontaneously in certain exalted conditions of mind ; 2, self-mesmerism ; 3, the native system of divinations.

1. *Phenomena occurring Spontaneously.*—Soon after being connected with the natives as a missionary, I became acquainted with the curious fact that they are almost always subject to visions and strange delusions of the senses during the early period of their conversion. A man has been aroused by some means from a heathen train of thought ; often by means unknown to himself—by something working in him, as he thinks, independently of any external thing ; sometimes something that has been heard in a sermon, or a remark in conversation, or in a book, or even the mere presence of another convert among his acquaintance, excites reflection. He becomes wretched, he knows not why. He is filled with an unreasoning fear. He dreads he knows not what. His external condition is such that he cannot retire to a secret chamber. But he is driven to pray to an unseen, unknown, uncomprehended power. He cannot pray in the midst of his friends and relatives. They would laugh at him ; perhaps beat him ; perhaps give him medicines to expel the new fancies. So, in obedience to the inner impulse, he goes to some retired spot in the bush, or to some secret ravine, and there kneels and cries to one he knows not. Whilst praying, he closes his eyes, and at once sees various kinds of fearful things. He sees, perhaps, a deadly snake coming towards him, with open mouth and fierce eyes, ready to attack him. Or he hears, as it were, the stealthy tread of the leopard, and the gentle crackling of the broken twigs, as he comes on for his final spring ; or he sees his eyes glaring on him through a neighbouring thicket. Or he sees a man approaching him with angry gestures, armed with an assagai to stab him. He starts up in dismay, to escape the threatened danger, in the reality of which he fully believes. But, on opening his eyes and looking around, there is nothing but the same quiet scene which he saw on his arrival.*

Being unable to explain such things—believing, as they do, that a dream is occasioned by the presence of a real object—they believe that these visions are occasioned by real objects too. Many are horrified, and imagine it is the spirits of their ancestors come to express their displeasure at their impious departure from the religion of their fathers. They desist from praying, and return to heathendom with all their old faith and notions greatly confirmed.

Or they may go to some friend who is a Christian, and

* An illustration of those phenomena may be seen in the autobiography of Usetemba Dhladhla, which has been translated and published.

consult him. Or they may ask the meaning of such things of the missionary. The former tells them that all natives, in the transition stage between unbelief and faith, see such things, and details his own experience. The latter may tell them it is a delusion. Both tell them not to heed such things, but to persevere. If they take this advice, and persevere for a few times, and disregard whatever presents itself, these visions pass away, and are never seen again. But such things are quite common in the most untutored savages.

An old woman, a heathen, who probably had never before spoken with a missionary, was brought to me by her son. She appeared to be in perfect bodily health; but she would not remain at home during the night, but went out constantly to wander on the mountains, because, she said, she heard the spirits of the dead calling her to become a diviner. Here was a very common symptom of incipient insanity; the brain hearing, or rather conveying sounds to the mind without any cause of sound. She thought she heard voices: they were internal or brain-voices, continually calling her to go to certain places, or to perform certain actions.

The power of divining generally begins in a native by some such disturbances of the nervous system as I have been describing. I have lately had an opportunity of inquiring into a case of this kind, the particulars of which I will proceed to detail.

A native of Springvale, a convert of some ten or eleven years' standing, suddenly left the station. He has always manifested great uncertainty of character, and a very impressible nervous system. It appears that for several years he has from time to time seen subjective apparitions, and been in the habit of dreaming strange life-like dreams. But superstition, and the still lingering within him of his old heathen notions, withheld him from making one a confidant in the matter; but he did mention it to some old people in the village, who were not likely to be able to help him in any way. At length, after a prolonged confinement to the house from a broken thigh, he was suddenly seized with the belief that the spirits of the dead were calling him to become a diviner; that is, he had subjective or brain-voices speaking to him. He gave no heed to the voices at first; but, at length, he told the head-man of the village that the spirits were calling him, and he must leave us.

Understanding that there was little chance of my being able to get an interview with him, I sent a man, in whom I could trust, to investigate the case for me. He gave me the following account of its origin and progress.

He said he was suffering from a disease which he did not

understand ; that it had destroyed his religious faith and his natural affection for his children, which had been very great. It had also destroyed his affection for men. There was now no one he loved. He wished to be away far from all human intercourse. The disorder began some years ago. He first had a sensation of something creeping up from his fingers and toes, passing up his legs and arms, and settling in his shoulders, producing there a sense of oppression and of great weight. The shoulders is the place where the Itongo is supposed to have some especial residence.

After a time he began to see things when he lay down. Then songs, which he had never heard, would come up of their own accord to his mind. Then in his dreams he passed from place to place, and supposed that in this way he had become acquainted with the whole country. "I see also," he said, "elephants and hyenas, and lions and leopards, and full rivers. All these things come near to me to kill me. Not a day passes without my seeing such things when I lie down." And let us think how great must be his terror, when he believes that these things actually come to him. Then he sometimes thinks he is flying high in the air. And if he tries to get rid of such things by praying, it seems only to cause the visions to multiply in number and frightfulness. "By prayer," he said, "I seem to summon all kinds of death to come and kill me at once." Now he has continual internal voices calling him at night, and telling him to go to some particular spot, or to dig up roots which are medicinal. He frequently obeys and finds nothing. Or if he finds a plant and digs it up, he does not know its properties, and throws it away. Sometimes he refuses to obey. Sometimes the voices tell him to go to a certain thicket, and he will find a buck entangled. He goes, but finds nothing. The voices also command him to slaughter cattle continually ; but he refuses. All sounds are distressing to him. He has quitted kraal after kraal because he is unable to bear the barking of the dogs : and one reason assigned for not returning to his home is the dread of the ringing of the bell.

He told the men that I sent to him that he saw them coming the day before ; but they were white men. And he was very ill on their arrival, because a white man had entered the hut during the night, and struck him on the thigh which had been broken. He arose from his sleeping mat and threw ashes over him. But the excitement had left him very ill. He is not always the same. On Sundays he is quite well, and imagines he knows when it is Sunday by his freedom from visions, and general sensations of relief. He will eat only a few kinds of food,—meat, the dregs of native beer mixed with boiled maize and wild herbs,

It is probable he was thus communicative with my messenger in the expectation of convincing him that he was being called by the spirits of the dead, and that he could not do otherwise than obey them.

His friends, looking on these symptoms as indicating the disease which precedes the power to divine, treat him with great gentleness and deference. The two questions they had to determine between were these:—1, whether they should call in a doctor who should so treat him that the power of divining might be fully developed in him; or, 2, whether they should call in a doctor to lay the spirits, and restore him to his usual health. They concluded to call in a doctor to lay the spirits, notwithstanding having been warned by another that by doing so they might cause his death.

A spirit is laid in this way. Emetics of a certain kind are given, which they suppose have the power of expelling from the system some matter which causes the disease. That which is ejected is taken, mixed with sundry medicines, and buried in an ant-heap some distance from the kraal. They adopted this plan, and the man was at once convulsed, and remained in convulsions for many days. They called his wife. She insisted that they should dig up the medicine, and went herself and destroyed the charm by opening the place where it was buried.

Thus things remain at present. What the future will be we cannot say. He may die of the disease, or become insane; this, however, is said by the natives not to be common. Or he may become a diviner. Or if he would submit himself to proper care and treatment, may be restored to perfect health. He regards as the immediate exciting cause of the disease in its aggravated form, a visit from his father-in-law, who told him that two of his brothers had become diviners in the Zulu country. He was silent, but was at once impressed with the conviction that in his own case, too, the visions and voices, and dreams were premonitions of a future eminence, such as that to which his brothers had attained. One of his sisters, too, in this country had had similar premonitory symptoms. It is a fact of considerable importance that it is a disease which runs in the family. It is said that his father, who was a steward to the Lulu king, had similar symptoms. The king did not like to lose his steward, so when he heard it, he sent his men and took away all his steward's cattle. And "that," my informant shrewdly remarks, "was the medicine which cured him."

I have entered into this lengthy detail of the case, not only because it is one which has come under my own observation, but because it may be regarded as a type of what the natives call "the disease which precedes the power to divine." But to sketch the progress of such cases, I must draw from other sources.

Such symptoms as I have mentioned having continued for some time, the progress is something as follows. The person is heard singing at night. The songs are often good, always new—so new and so good that the whole kraal will sometimes arise and join in them. Or he is observed to come home early in the morning, having been wandering about the country all night, bringing with him certain plants, which he tells them the spirits have pointed out to him, and revealed their medicinal powers. Or he leaves his home, and wanders for an indefinite period on the mountains and in the open country; and comes back daubed with clay, which he says he has obtained by living for some time in a pool with the rainbow, which the natives suppose to be an animal; and having his body festooned with snakes. After a time he declares himself to be a diviner; and his friends put his powers to the test by concealing things, which he has to detect by his clairvoyant ability. If he succeeds, his fame is spread abroad among the people, and they are called to be witnesses of his power. They send him away into the bush, and hide all kinds of things in all kinds of places. He returns, and if he finds them, or the majority of them, he is declared to be a diviner by acclamation.

We should not omit here to mark that these diviners, in their initiations, adopt a very similar process—fasting, watching, and bodily austerities—to that of the old Egyptian hermits, and other notabilities; and that the results in each case are similar, visions, inner voices, and clairvoyance.

2. *Self-Mesmerism Practised by the Natives.*—I cannot better introduce this subject than by the words of a native:—"Among black men there is a certain inner power of divining. When a thing is lost which is valuable, they begin to search for it at once; when they cannot find it, each begins to practise this inner divination, and tries to feel where the thing is; and not being able to see it, he feels internally a pointing, which says if he go down to such a place he will find it. At length he feels sure he shall find it; then he sees it and himself approaching it; before he begins to move from where he is sitting he sees it very clearly indeed, and there is an end of all doubt. That sight is so clear, that it is as though it was not inner sight, but as if he saw the very thing itself, and the place where it is. So he rises quickly and goes to the place. If it is a hidden place he throws himself into it, as though he was impelled by something to go as swiftly as the wind. And he really finds it, if he has not been merely guessing with his brain, but has practised the true inner divination. But if it has been from mere head-guessing, and knowing that he has searched in such a place and such a

place, and then it must be in such another place, he generally misses the mark."

It is extremely interesting and remarkable that in order to excite this inner power into activity, these savages adopt a plan precisely similar to that of certain mystics when they are waiting for inspiration. Like them, they attempt to effect intense concentration and abstraction of the mind,—an abstraction even from their own thoughts, and, according to the statement, by this self-mesmerising process, become clairvoyant.

Here is an instance or two in which this "inner divination" is put to a practical application: It is said that when boys are herding cattle they often leave them to join others in a game of play. Hence it often happens that, when they return towards evening, several of the herd are missing; they sometimes search here, there, and everywhere they can think of to no purpose. They then agree to sit down and abstract themselves from all external things. Whilst thus abstracted, an intimation arises within them, or one of them, that the cattle are in such a place; and the faith in the truth of the intimation is so strong, and the impulse to go to the place so irresistible, that the subject of it arises and runs off full speed to the place and finds the cattle. It is said that it is not every boy that has the power; some have it more than others; some never have it at all. Others, on the contrary, have it so strong and clear, that they are soon looked up to by their fellows, who follow them with the same confidence as a pack of dogs will the yelp of some well known hound when he has taken up the scent. It is said that native waggon-drivers, when they have lost their oxen, sometimes adopt this plan with success.

Sometimes persons who wish to inquire of a diviner will agree to conceal from him the object of their visit; so when they come to his hut they pretend to be mere passing travellers. But after sitting still awhile he becomes sensible of the object of their visit. He tells them he saw them before they reached his place, by his inner sense, and knows that they come to inquire of him; that being a real diviner, he has no need of assistance from them. He orders them to leave the house, and promises he will presently bring them the information they want.

In Zululand, in order to prevent intelligence being carried to intended victims, the chief does not acquaint his troops with his intentions till the time of their setting out to destroy the inhabitants of some devoted kraal. It is said to be no uncommon thing for the head of such kraal to have a presentiment pending danger. He is first sensible of bodily uneasiness and great restlessness. He then sits still, and practises the "divination", or self-mesmerism, which the *hard* boys

and in this state he becomes conscious—that is, has a brain-vision of the approaching army; and tells his people to quit at once their village and hide themselves in the woods. As they quit their kraal he will sometimes halt them again, to feel an inward intimation of the path they are to take. It is said that in this way many escape that would otherwise be massacred.

Many of us will no doubt remember examples of similar occurrences among other people.

3. *The Native System of Divination.*—There still remains for us to consider their system of divination. There are several kinds of diviners among them. They are called “iziniyanga zokubula”, and are of four kinds: 1, iziniyanga zesitupa, or thumb-diviners; 2, those who divine by means of pieces of stick or bones, who are called Omabukula izinti and Amatambo; 3, iziniyanga ezadhla impepo—diviners who ate impepo; 4, and lastly, those who are called Abemilozi, which perhaps we cannot better translate than by “those with familiar spirits.”

1. The thumb-doctor is so called because in divining he requires the assistance of those who come to inquire, which is given by pointing with the thumb whenever he says anything approaching to the truth. It appears to be a mere system of guessing. The diviner asks sundry questions of those who come to inquire. His questions are put, however, in an affirmative form. He begins, perhaps, by saying, “you have come to inquire about a person who is ill?” As this is a very common cause which leads people to diviners, he is very likely to be right the first time. This assertion is received with great outcry. They cry “hear, hear!” smite the ground with branches, and point towards him with the thumb and say, “Eh, eh!” By this means he gets on the scent, and in the same way he gets gradually to know the age, sex, condition, etc., of the patient. And having, by help of those who consult him, learnt all these particulars, he sums it up in one grand oracular declaration: You come to consult about a sick person. It is an old man. It is the head of the kraal. You who come to me are his children. His eldest son is not here, however; but the second son. He is ill in such and such a manner. You do not suppose it is a mere disease. It has been brought about by poisons. You suspect some one. That one whom you suspect is a near relation. I must not mention him, etc.

In fact, he merely relates to them in his own words, in a direct and connected form, that which they have already told him in a disjointed, disconnected manner. The stronger mind governs the feebler, and leads it as it wills. It is very much like the game played by children, hiding and seeking. As the seeker

approaches the thing concealed, they say, "You are hot"; or if he is going away from it, they are either silent, or say "You are cold—very cold—very cold," and thus bring him back to the place of concealment.

An account of some such process adopted by a man called "a white witch" will be found admirably told in a novel which I remember reading many years ago, but to which I cannot refer, called "Sir Launcelot Greaves." The country bumpkin is made the dupe of the more intelligent; he first worms out of him by a series of artfully continued questions the secrets of his history and his connections, and then tells back to his astonished ear the information he has thus gained, which sounds to the rustic like a revelation from heaven. The natives themselves place very little confidence in doctors of this kind, but regard them as mere extortioners, who possess a greater power of devouring food than of divining. They are called *Amabuda*, that is, babbling, talkative, lying deceivers.

It may be worth remarking that in Abyssinia there is a word, probably of the same origin as this. *Bouda* is a term applied apparently to a demon or evil spirit which possesses people,—to a sorcerer, who has communication with the demon, very much like the *Umtakati* of Natal in his character, but having much greater power, and exercising it not by the coarse means of medicines and charms, but by a kind of spiritual influence:—it is also applied to the person possessed, and the disease which arises as the result of possession. The disease consists of a remarkable disturbance of the nervous system, resembling hysteria, and is sometimes, in certain unhealthy seasons of the year, epidemic. To counteract the *Bouda*, there is a host of exorcists, who exercise an extraordinary power over the patients, and, by adopting a strange system of treatment, relieve them.

2. The diviners who use sticks or bones are supposed to be of a more trustworthy character. The *Omaukula izinti* has three sticks, which by some means or other he causes to move about, and jump. It is said that if inquiry be made for a sick man, the sticks or one of them will be made to leap towards the person inquiring, and fix itself on that part of the body which corresponds with that which is diseased in the patient. Or if they ask a question, for instance, "is the brother of the patient here?" it will at once arise and jump on him if present.

The *Amatambo* or bones are each named,—man, cow, dog, etc. When the inquirer comes, without asking any questions the diviner throws his bones on the ground; if he comes to ask anything about a man, the man-bone shows agitation;—if about a cow, the cow-bone moves, etc. Of course one is unable to pass any opinion on this subject, not having seen any exhibition. But it is probably a sleight-of-hand system.

3. Diviners who ate impepo are supposed to be possessed of real powers of divination. The impepo is a medicine, which is used as incense in sacrifices, and to make the spirits of the dead propitious and their revelations clear. The diviner uses it frequently, and sleeps with it near his person. We may suppose that these diviners are persons who possess some natural clairvoyant and prophetic power. We have now seen enough to render this supposition not only quite possible, but probable. They hold the same position among the natives as prophets and seers and oracles among other people. And as in those other cases we find a great deal of mistake mixed with a little truth, so among the Zulu diviners a thorough sifting may find a few grains of real wheat in the midst of much chaff. But it appears to me one of the most unwise things to pooh-pooh it as a system of mere imposture and deceit practised by intelligent men on the credulity of the ignorant. It has been beautifully said, "a scientific truth is a very sacred thing." Every true man of science would feel this. But if a scientific truth is a sacred thing, so also are those individual scientific facts sacred upon which the truth is erected. The diviner, being naturally of an impressible nervous system, or, as the natives say, "having a soft head", only awaits some concurrence of circumstances,—illness, it may be, suffering, famine, excitement,—to bring out the latent power, similar to that which is found occurring in every part of the world. He then subjects himself to a discipline of fasting, watching, and bodily exhaustion, by which the natural power is fully developed. In some instances he practises the system of self-mesmerism; in others, he appears in a lazy, dreamy state to be cognisant of things beyond the power of the senses.

4. Those with familiar spirits are the most remarkable. The diviner of this order does nothing apparently. He merely sits still, and the answers are given by voices at a distance from him, which are supposed to be the voices of the spirits which are his familiars. But perhaps I cannot better bring before you the particulars of this class than by giving you two accounts which I received from eye-witnesses: A native kraal among the Amadunga, on the Tukela, having had some quarrel with their people, came into the neighbourhood of the lower Umkomanzi, and settled with a relative among the Amahlongwa. They lived with him as dependents in his village. Soon after settling there a young child was seized with convulsions, and, at once alarmed, they determined to consult a woman, living at some distance, celebrated as one who divined correctly by the aid of familiar spirits. Some young men, cousins of the child, went to consult her. On entering her hut and saluting her, she merely responded, but said nothing for some time. But at length, having taken

some snuff, she yawned, stretched, and shuddered, as is the custom with diviners when about to be the subjects of inspiration. She then said: "They who divine are not yet come;" that is, the spirits.

They remained waiting a long time, until they almost forgot the object of their coming; at last a voice as of a very little child, proceeding from the roof of the hut, saluted them. They started, and looked to see whence the voice came. The spirits said: "Why are you looking about? We merely salute you." They replied: "We look about because we cannot see where you are." The spirits replied: "Here we are. But you cannot see us. You will be helped not by seeing, but by hearing what we say." The case then proceeded exactly as in common divinations, excepting only that the woman was apparently passive, and the conversation was carried on by the voices, and the revelations made by them.

The spirits began by saying: "You have come to enquire about something." They were silent, and the woman said: "Tell them. They say you come to enquire about something." They smote the ground in token of assent. They continued, "That about which you come is a matter of great importance. An omen has appeared in some one." Again they smote the ground, assenting, and asked: "How big is the person in whom the omen has appeared." The spirits replied: "It is a young person." They smote the ground vehemently here, because, as they said, "they saw she had hit the mark."

The spirits then went on to say, the omen was bodily; that the person affected was a boy; that he was still young, too young to go out to herd. All this being assented to in like manner, the spirits went on feeling their way, as it were, to these things. They said: "Strike the ground, that we may see what it is that has occurred to the body of this little boy. There he is—we see him, it is as if he had convulsions." This was assented to with a most earnest smiting of the ground. The spirits said: "What kind of convulsions are they? Ask of us." The enquirers told the spirits they were going the right way, and required no assistance of them. They replied: "We told you to ask, because perhaps we are going wrong." They then went on to detail in a most minute and correct manner the time when the first convulsions took place, and the character of the attack, and what was done and said by the mother of the child and others. All this having been assented to, the spirits continued: "The disease resembles convulsions. You have come to ask us the cause." They replied: "Yes, truly, spirits, we wish to hear from you the disease and its cause; and also the remedy." The spirits promised to inform them, but first told them other particulars of their history. The

boy was the only child of his father. He was their brother. But not really their brother, but their cousin; he was their brother because their fathers were brothers. They then went on to say: "Smite the ground that we may see which is the older of the two. We say, boys, your own father is dead. Smite the ground that we may see where he died. There he is, we see him. He died, boys, in the open country. He was stabbed with an assegai. By what tribe was he stabbed? He was stabbed by the Amazulu on this side the Tukela. That is where your father died, boys."

They then told them that the disease was not properly convulsions, but was occasioned by the ancestral spirits, because they did not approve of their living in their relative's kraal, but wished them to have their own kraal. They told them among what tribe they were living, and to what tribe they belonged. That the person with whom they lived was their cousin on the mother's side. They exonerated the cousin from all blame, saying: "We see nothing wrong in the village of your cousin. He is good. Even no practising of sorcery there. We see that the village is clear of that. You eat with your eyes shut, for you have no reason to complain. What we tell you is this. It is the ancestral spirits that are doing this thing."

They then proceeded to tell them the remedy. "We have pointed out to you the ancestral spirits as the cause of this disease. When you reach home you shall take a goat. There it is -- a he-goat. We see it." They said: "How do you see it?" The spirits replied: "Be silent. We will tell you, and satisfy you as to its colour. It is white. That is it which has just come from the other side of the Ilovo, from the Amanzimtote. It is now a large he-goat. You shall sacrifice it, and pour its gall on the boy. Go and gather for him Itongo medicine. We see the Itongo. It says that your village must be removed from its present place and stand alone. Does not the Itongo ask, why you have lived so long in the village of another? The he-goat you will sacrifice to your grandmother. It is she who refuses to allow the child to die. Your grandfather has earnestly wished to kill him. We tell you this to satisfy you. We tell you that if the disease returns you may come again and take back your money. Now we have divined for you, so give us our money. They offered the money; and the spirits told the woman to take it. She took it, at the same time warning the spirits, that if it turned out that they had spoken falsely, she would give it back again.

The narrator, who was one of the persons engaged in the inquiry, goes on to say, "The woman with the familiar spirits sat in the middle of the hut, at the time of full daylight. The spirits cannot divine by themselves; when they are going to divine their

possessor goes with them. The possessor of them cannot divine ; she usually says very little, and she too inquires of the spirits, asking, ' So and so, when you say that, do you tell the people who have come to inquire of you the truth.' They replied they did tell the truth and that the people would see." So the possessor of the spirits took the money ; and the spirits said : " Go in peace, and give our services to the people."

They went home, sacrificed the goat, poured the gall on the child, plucked for him Itongo medicine, and gave him the expressed juice to drink, and made immediate arrangements for building themselves a new kraal. *And the child never had an attack of convulsions after ; and is living to this day, a strong healthy, young man.* The name of this woman is Umkankazi. She lived on the Umtwalume, by the sea ; a day and a half journey distant from the kraal of those who inquired of her. They had never seen her before.

Now we shall be all ready with our explanations. We may say she had gleaned and treasured up in her memory the history of these people ; that she had secret intelligence of all things going on around her ; that she had been told of their having brought home a white he-goat only a few days before going to inquire of her ; that the recovery of the child was a mere coincidence, and that the voices were produced by ventriloquism. Whether this is a correct explanation or not, the woman displayed much ability in playing her part. And where the spirits assert that they see, we are reminded of the old seers who, in their state of ecstasy, peered into the distant void, and saw visions of the past, present, or future, which sometimes proved to be a scenic exhibition of real fact displayed to their inner sense, and which they had no external means of knowing.

We have seen that various causes are capable of producing a similar condition of brain to that which is produced by the presence of external things, and so affecting the mind in the same way as it would be affected by objects actually present. Among other causes was mentioned the mind itself : we said that it is able, by an exertion of the will, to raise a spectre. We have also seen that the will of one person can in like manner be exerted on the mind of another, and cause it to feel and think as he pleases and to see spectres. It may, therefore, turn out to be really a fact that good and evil spirits also, in accordance with common belief in all ages of the world, act on the human mind in the same way, and may produce illusions of the eye, ear, or general sensation, by acting on the brain in a way similar to that of diseased blood, medicines, mesmerism, a person's own will or that of another. At least, as men of science, we must admit that, allowing the existence of an Eternal Spirit, and of spirits of an inferior

order, there is not only nothing impossible, but, on the contrary, there is the utmost probability that they should be in some relation to man, and be able to act in some way or other on the human mind. And the various facts we have been considering, proving that the mind can be acted on by powers without itself and independent of material agents, seem at least to intimate the mode in which that action may be effected, that is by producing in the brain a condition similar to that which is necessary to convey to the mind a knowledge of the outer world. And as it is necessary, in order that one mind should be able to act on another, that the two minds should be in a certain relation to each other, so we may suppose that the mind is capable of being influenced by either good or evil spirits only when it is in a state of sympathetic relation with them.

And it is possible that, by a careful collection and consideration of facts which it is now very much the fashion with men of science to set aside as belonging to accidents and coincidence, we may be led to conclude that whilst such phenomena, occurring as they do at all times of the world, in all conditions of society, and in persons holding the most opposite religious creeds, cannot be ascribed to the direct agency of good or evil spirits alone, yet they may be intimations that not only can the soul of man look out on the world around him, and become cognisant of it through the organs of sense, but that it can look in another direction, and without the organs of sense obtain a knowledge both of what is going on in the world beyond the sphere of the senses, and even look into futurity, and hold communion with the invisible world of spirits.

DISCUSSION.

MR. J. W. JACKSON said: I trust that the paper to which we have just listened will prove but one of a series on this and similar subjects. We want to know more of the psychology of the savage. He has long been portrayed with more or less of accuracy from without. Here we are enabled to contemplate him, in a measure, from within. And whatever we may think of the *manner* in which Dr. Callaway has executed his well-intentioned task, we should not withhold our warmest approval of the purpose itself, that is, a delineation of savage belief in the supernatural from the standpoint of the savage himself. And if missionaries and travellers would only follow the good example of the reverend doctor, we should soon be in possession of data that could not fail to throw considerable light on the constitution and action of the human mind, as manifested not only in the simpler stages of social progress, but also in the earlier grades of humanity's organic development. Hitherto, from a variety of causes, this phase of anthropological investigation has been largely neglected, but the time is obviously approaching when not only the dreams, presenti-

ments, divinations, and ghosts of Caffres, but also of people nearer home, will be considered as legitimate subject-matter for inquiry. One thing is already clear, namely, that the psychology of the savage does not differ from that of the civilised man, nearly so much as might be supposed. His susceptibilities to, and consequently his impressions from, the supersensuous sphere, are radically the same as those of his more highly-organised and more educationally-developed brother. It yet remains, however, to be decided whether they may not differ in *form*, and in any future inquiries of this kind I would recommend that we endeavour to discover whether there be any distinctive characteristics attaching to the Negroid, Turanian, and Caucasian types in their experiences of the supersensuous, and their conceptions of the supernatural.

Mr. DENDY regarded this as the most prolix and monotonous paper read before the Institute during this session ; indeed, it was a real infliction. What in it that was new was not true, and what was true was not new. The idea of spiritual influence over the true savage was an illusive fallacy, which no man of real science ought for a moment to entertain. The notion of phreno-magnetism, indeed the once popular phrenology itself, is a mere delusion, or the trick of an empiric. He would, therefore, blot out the word phrenology, the doctrine of the diaphragm, and craniology, the indications (?) of the skull, from our discussions on the Science of Man. He differed, *toto cælo*, from Mr. Jackson, to whom he would propose the term "noosology", the doctrine of the mind, or "encephalology", the science of the brain. He believed that the vaunted phenomena of the medium may be explained by the action of physical force without the agency of a spirit. He had himself presumed, some years ago, to illustrate this in "A Gleam of the Spirit Mystery." The anecdotes of the prophetic clairvoyance of the Kaffirs and the Zulu ought to raise a blush in those who cite them as spiritual phenomena ; if we hear nothing from south-eastern Africa more rational, the sooner the district is tabooed the better. He was sorry to be thus severe, but the caprices of this pseudo-philosophy were so much below common sense, that he was certain they would not, for a moment, be accepted by the Anthropological Institute. The reference to the cerebral pathology of these cases is but a repetition of long-accepted facts in psychology.

The CHAIRMAN (Mr. G. Harris) observed that he thought the question had been fairly and comprehensively treated in the paper which had been read, and that our acquaintance with the notions of savage races with regard to topics of this nature was calculated to throw much valuable light on the subject. The general question was, he believed, well deserving of inquiry, and strictly within the province of the Anthropological Institute. It was one which ought to be discussed without passion or prejudice, but into which, unfortunately, passion and prejudice had been to a large extent introduced. Extraordinary, too, had been the oscillations between credulity and scepticism with regard to the subject. At one period every shadow was regarded as an apparition. At another period every apparition was regarded as a

mere shadow. Both modes of dealing with the matter were alike, and equally unphilosophical. No doubt the majority of cases of supposed apparition were the result of delusion, disease, or imposture. But this did not prove that every case of the kind might be so accounted for. What he desired to see effected, and what he thought was strictly within the province of a philosophical society, like the Anthropological Institute, to effect, was to lay down a strict test, which might be applicable to all cases of this kind, and by which the truth of them might be tried, and the evidence by which they were supported fairly and dispassionately examined and closely scrutinised. It was quite possible to frame such a test, and to apply it; and this was the only fair, and satisfactory, and philosophical mode of disposing of the entire subject.

Major Owen, Mr. Prideaux, and Mr. Charlesworth also took part in the discussion.

The meeting then adjourned.

MAY 29TH, 1871.

PROFESSOR BUSK, F.R.S., *Vice-President, in the Chair.*

THE minutes of the last meeting were read and confirmed.

The following new member was announced: GEORGE LATIMER, Esq., of Puerto Rico, West Indies, and Windham Club, London.

The following paper was then read :

A DESCRIPTION of the QUISSAMA TRIBE. By F. G. H. PRICE,
F.R.G.S., M.A.I.

It is my intention to-night to read you a brief description, including a few of the most striking manners and customs, of the Quissama or Kisama tribe. They inhabit that portion of Angola which lies on the south of the Quanza river, occupying an extensive tract of country between the Atlantic seaboard on the west, and extending beyond the Libollo Alto on the east.

This country has recently been visited by Mr. Charles Hamilton, who has kindly furnished me with his notes, and given me every particular that came under his observation concerning these but little-known people. As far as I have been able to ascertain, this country has never been explored by any Englishman. The natives are currently reported, by the Portuguese in Angola, to be cannibals, which circumstance causes them to be held in great dread by those people.

When Mr. Hamilton was sojourning in the vicinity of Dondo, situated upon the right bank of the Quanza river, in 9 deg. 40 min. south latitude and 14 deg. 52 min. east longitude, he was informed of the arrival of two powerful kings or chiefs of the Quissama tribe upon the opposite side. They had made a journey from the interior of their country to consult a black man at Dondo, who had a great reputation as a man of intelligence and justice of character. This man was to enact the part of arbitrator in some dispute that they wished to settle amicably, the nature of which did not transpire. They kept up their state that night in a most regal manner by the light of perfumed wood torches, which quite illuminated the forest and whose fragrance was wafted across the river. Early the following morning some very large canoes put forth from the Quissama side of the river and proceeded to cross over; these contained the kings and a large retinue of followers or men of war, who, while crossing, kept up a most magnificent chorus, which was really melodious. Their dignified bearing upon landing was very striking; each man carried a spear. Mr. Hamilton remarked that there were a considerable body of men secreted in the forest on the opposite bank, which were, he presumed, in readiness in case of necessity.

They obtained the arbitrator's opinion in two days, during which time they expended a large quantity of ivory and other products of their country in Dondo and its vicinity. They gave a great entertainment to the umpire and his friends, Mr. Hamilton being among the number; he was the only white man who had the honour of receiving an invitation. They likewise asked him to return with them to their country, which he willingly did. The Portuguese bade him farewell, at the same time expressing their opinion that they did not expect ever to see him again. Mr. Hamilton was well received by the Quissamas; he found them an extraordinary fine race of men. They are mostly copper coloured. The height of the men averages about five feet eight inches and that of the women about five feet. Many of the men had a remarkably shy expression, and appeared naturally suspicious of strangers, as a great number had been kidnapped at various times by Portuguese traders.

Most of the men possess well-shaped heads, which are usually long, with narrow but high foreheads; their hair is long and coarse, it partakes more of a frizzled than of a woolly nature, yet there are many exceptions to this rule; as has before been remarked in the Malagash and other races, whose predominant colour is dark brown, some few having been seen with skins of a deep black, with woolly heads, broad noses and thick lips, not unlike the typical negro. Thus it was with the Quissamas. The traveller noticed that they differed much in colour and general

appearance. Many of them had large noses, which partook of the Roman and aquiline types, but the generality were broad or flat with thick lips. They possessed large chins with a scanty beard and moustache; only a few he noticed had whiskers. Most of the men had hair upon their chest, and the glans penis was of an enormous size. They are cleanly in their arrangements and persons; they rub their skins over with palm oil, occasionally mixed with a sort of red ochre, this gives them a remarkably glossy appearance. In this custom they remind one much of the Kaffirs. They are exceedingly muscular; possessing well-formed legs, and they walk with a graceful easy gait. They live to a great age. There are some portions of this tribe which still indulge themselves in the horrible and disgusting practice of cannibalism, but they reside further in the interior. Those occupying that portion of the country watered by the Quanza river are but rarely addicted to such evil practices. The few cannibals that Mr. Hamilton came in contact with, had a very different aspect to those I have now briefly described; they have squalid and unhealthy exteriors and do not move about with such a noble gait. Amongst these latter, any one who cannot pay his debts, or who is guilty of what they pleased to define as crime, is at once killed and eaten. Of late years the more enlightened of this tribe have consulted their criminals as to what punishment they would prefer. The choice usually given is, either death or to be sold as slaves to the Portuguese. It may appear strange to us, but these simple people prefer to be put to death to becoming the property of the Portuguese, for whom they evince the greatest contempt.

Their mode of execution of a criminal who is not intended for the pot is excessively simple; he is ordered to drink a dose of poison, which very soon takes effect and quickly puts an end to the poor wretch's sufferings. Others are tied up in a sort of sack, which is made from the bark of a certain tree, and are then thrown into the river, where they become food for the alligators or jacare, as they are there called, which are very numerous. Those who are usually selected to be eaten are they who have accumulated some kind of wealth or who have large families. The family and property of a man who is doomed as a fetich to appease the deity are confiscated.

The Quissamas possess a wonderful love for their country; they are as brave as any human beings can well be, fearing nothing. It is owing to this determination of character that the Portuguese have been kept out of their territory, added to which the physical condition of the country has been much against them. Although they have made several unsuccessful attempts, yet the Portuguese have never been able to subdue and annex them. When Dr. Liv-

ingstone passed through Angola on his great journey across the African continent, although he did not cross the Quanza river to enter their territory, he makes mention of the Quissamas in his *Missionary Travels* in the following words: "The Kisama are brave, and when the Portuguese army followed them into their forests they reduced the invaders to extremity by tapping all the reservoirs of water, which were no other than the enormous baobabs of the country hollowed into cisterns. As the Kisama country is ill-supplied with water otherwise, the Portuguese were soon obliged to retreat. Their country lying near to Massangano is low and marshy, but becomes more elevated in the distance, and beyond them lie the lofty dark mountain ranges of the Libollo, another powerful and independent people."

Mr. Hamilton was informed by the chief that he was the only white man who had really seen them "at home." Many of the natives were much astonished at him, especially with his beard, which, with the usual curiosity of savages, they persisted in pulling, in order to ascertain whether it was really growing. They were pleased to call him brother of God Almighty.

The chiefs did not appear to be at all exacting towards their people. They have no imposts, consequently they have no poll-tax to pay, as the natives have in some of our colonies. In times of war the men are all expected to assemble around their chief, and then it is said that even the women will fight.

The women are very symmetrically formed, and in many instances are really handsome. Their hair hangs down as low as the extremity of their ears; it is coarse and is ornamented at the end with teeth or balls of clay. Some of them wear ear ornaments. They have rounder heads and faces than the men, with black piercing eyes of a brilliancy truly marvellous. The ears of the young girls before they have been pierced are singularly small. Their clothing consists of a garment made from the bark of a tree, which is shredded, and at a distance does not look unlike the tinsel dresses worn by ballet girls in Europe. This dress is fastened round their waists, and reaches a very short way down their thighs, in fact scarcely far enough for decency, I should say these dresses are heavy, but decidedly airy.

Their great abhorrence for the Portuguese or anything belonging to them, prevents them from wearing any of their textures or calico cloths which so many Africans do. Upon their feet they wear sandals made from the bark of a tree. A few of the well-to-do women wear necklaces.

Upon the approach of childbirth the woman, as is the custom among so many primitive tribes, departs from home, as she has the idea that neither man nor woman should see her; so she goes forth unknown into the forest where she remains until she

has succeeded in delivering herself of the child. Shortly after the birth has taken place she returns to her hut, but the infant is secreted for a while; she does not tell anybody, and as time flows on no questions are asked; but should she be unfortunate enough to have a miscarriage and the infant were to die, then from mere fright she would run away far from the scene, otherwise were she discovered she would be put to death by poison.

The Quissamas appear to be a virtuous people, and, as far as Mr. Hamilton was able to ascertain, practised monogamy. They marry young, usually at the age of twenty, and have large families. It is worthy of observation that cripples are rarely met with.

The women carry large baskets made of plaited grass, slung upon their backs, supported by a band or strap which passes across their foreheads. This band is generally ornamented with the teeth of animals that they have killed themselves, such as those of the leopard, hyena, etc.

They have an excellent and simple method of bringing up their piccaninnies. In order to keep them out of harm's way, all the children belonging to the many-scattered huts of a district are brought together every morning, and are kept under the strict supervision of an old woman during the day; at night they return to their parents. This institution answers to our infant schools. Their nourishment consists of palm-oil and goats' milk. This arrangement enables the parents to attend to their agricultural pursuits, of which both sexes are very fond. The women, while doing field work, always have the young infants, such as cannot walk, strapped upon their backs. Hunting likewise occupies a considerable portion of the men's attention. The men evince strong affection for their wives and children. There are a very few women in comparison to the number of men, which circumstance, I think, would be fully accounted for, if we could determine that, at some time past, they destroyed their female offspring, as is the case with some of the hill tribes of India and with the Australian aborigines; but this, unfortunately, I am unable to ascertain, as nothing is known of their early history. Their huts are made in a similar manner and shape to those of the Kaffirs, which have been so frequently described. The interiors of many of them are lined with matting made by the natives of plaited grass. Some few of the huts are composed of wattle and daub. It is a singular sight to see a woman bare-legged climb up the gigantic palm-trees, with a calabash of immense size hung round her neck. As soon as the top branch is reached, and she succeeds in tapping the tree (which is done with a piece of rough iron), and finds that it gives vent, the woman then proceeds to suspend the calabash, in order that the liquid may flow into it. She then descends from the tree, and in the

course of about twelve hours again climbs up, this time to take down the calabash, which is full of palm beer. Mr. Hamilton compares this beverage in flavour to mead. The most difficult part was bringing the heavy calabash down from the tree without dropping it. The manner in which it is done is by adjusting it round the neck by means of a strap, and then slowly letting herself down. It is very dangerous, and it not unfrequently occurs that the woman falls and injures herself severely. This beer is partaken of with moderation, considering to what an extent some tribes drink it. Mr. Hamilton found that it was a very good time to visit the Quissamas when they had some fresh beer, as it made them particularly genial. A very little of it suffices to stupify one.

The soil of the Quissama country is rich, and the natives cultivate manioc, ground-nuts, etc., and trade successfully in palm oil; more so, Mr. Hamilton tells me, than the natives do on the Angola side of the river, as the Quissamas do not get molested by convicts, as the inhabitants do in parts of Angola. The Portuguese Government turn these wretches loose, to seek shelter where they can, and they stand at nothing; they even go so far as to turn the peaceable blacks out of their homes, for which they cannot obtain redress. Bees are very numerous throughout the country, and the Quissamas send a large quantity of wax down to Loanda, by way of Dondo or Massangano, annually. The honey is of a poisonous nature, and causes diarrhoea, which is exceedingly difficult to stop. Salt is likewise a great staple of trade; it is brought to Angola in crystals. The Quissamas are exceedingly independent, but very civil and hospitable to strangers—at least so Mr. Hamilton found them, and he had good opportunities of testing.

They are particularly partial to cheerful entertainments, such as singing and dancing, which are entirely free from Portuguese bestiality. The Quissamas are very proud towards other tribes, and the traveller never observed a Quissama deign to address an Ambonda. The latter would say to him, Why don't you speak to me? The Quissama man would reply: I cannot, you have masters, and slaves are beneath us. They even refuse to trade with them.

After the traveller had been with these people some time, he was favoured by being permitted to witness one of their great festivities, which took place at night, and reminded him somewhat of similar entertainments he had so frequently witnessed with the Zulu Kaffirs. The scene was illuminated by torches, added to which the bright light of the moon gave a very weird aspect to the affair. The chief, with his head men and Mrs. Hamilton, were seated upon a mat to witness the dance: they had

small calabashes containing beer, placed before them for refreshment.

A large number of powerful athletic men, with muscular arms and legs appeared ; they were naked, with the exception of a beautiful skin of some animal, which flowed from their shoulders. Some of them were armed with guns, mostly of rude make, being copies of some they had procured from the Portuguese, a few with bows, and others with spears, the shafts of which were made with the greatest care. They were carved with figures representing men and animals that they had killed. The spears were usually from four to five feet long, with iron heads fixed into the shafts. One man walked about in the midst of the dancers, bearing upon his head and shoulders the head of a young elephant. I was informed this was esteemed as a mark of great honour, and such is only conferred upon a man who has been a successful elephant hunter, and has presented the chief with a large quantity of ivory. Another man wore a lion's head, another a leopard's, and so on.

The women were *in puris naturalibus*. Most of them had a kind of musical instrument, not unlike a rude guitar, which nothing will induce them to part with. When this instrument is struck, it produces very thrilling and harmonious strains. The women formed groups of four, and sat down outside the dancers.

It was a puzzle for some time to Mr. Hamilton to know what had become of the piccaninnies, as they were not visible at this great gathering, yet he from time to time heard their cries. Upon looking about him he discovered that both small and great were hanging up in long rows on beams, just as they had been unharnessed from their mothers' backs. It was a strange sight ! A big girl with a calabash of food, composed of palm-oil, manioc, and mealies mixed together into the consistency of pap, was feeding them in rotation, by giving each one as she passed down the row a spoonful of this porridge. The idea struck him at first sight that perhaps they were tied on to these boards for the purpose of compressing their heads, but this he found after inspection was an erroneous notion. A guard of four slaves stood to protect them from the wild animals. A few smart lashes from the rhinoceros-hide whip, would have been the punishment had they neglected to attend to these little ones.

The traveller was conducted to his hut, which smelt unpleasantly strong of beeswax ; he, however, being much fatigued, fell asleep. He was shortly afterwards disturbed from his slumbers by hearing a great noise outside his hut ; he distinctly heard the sharpening of knives, which caused the unpleasant remembrance to recur to his mind of these people being reputed cannibals. He already regretted that he had given up the protection of

Portugal by coming into this country, and he made up his mind that he was destined to be breakfast for the king. He was determined to put a bold face upon the matter, so he crawled out of the hut. His fears were at once dispelled, as he quickly saw that they were merely preparing to slaughter a pig, which some hours later he partook of.

Like all Africans, the Quissamas are very fond of snuff, which they push up their noses with the aid of a wooden or an ivory spoon, elegantly fashioned by themselves. They are likewise given to smoking tobacco. Should they meet a friend with his pipe in his mouth, they unceremoniously seize it, and smoke it as long as he is in conversation with them; but as soon as the conversation is ended the man refills the pipe, and returns it to the owner.

Great respect is paid to their doctors, but they are not held in such dread by the natives as those individuals are by the Kaffirs. They are known from other members of the tribe by their wild appearance, and by a number of fetiches which they carry suspended round their necks, and more especially by a small box which hangs upon their breasts, on the top of which is a man's head carved in wood.

The few medicines and operating implements are contained in this box. They practise the fine old recipe that Mr. Hamilton has remarked to be so much in vogue among the Kaffir medicine men, *i.e.*, that in cases where medicine has been administered, in order to give it proper efficacy, the doctor spits his saliva down the patient's throat.

These people believe in a supreme being. I quote a few words made use of by Sir John Lubbock in his "Origin of Civilisation", which fully carry out the impressions that fetichism made upon our traveller, *i.e.*, that "The negro believes that by means of the fetich he can coerce and control his deity." Mr. Hamilton saw a doctor operate upon three pretty young women, who fancied that they had a surfeit of blood, and that therefore it was necessary they should be bled. The arm was the place selected in each case for the operation. The doctor pretended for a long time that he could not find any vein; but when he did discover it, he thrust his coarse iron lancet into it, and the blood of course flowed copiously. The women were thus satisfied, and fancied that they had appeased their fetich, and went away contented.

It is a common practice for the women, after having connection with the men, to be immediately bled, as by so doing they imagine it will cause them to be fruitful.

Should a traveller pass through their country during a prosperous season, when all the crops and dealings have been satis-

factory, they look upon him as a fetich, and receive him well accordingly; but on the contrary, should a dearth occur, then the traveller had better make his escape as quickly as possible, as in all probability he would be severely handled.

After a death, it is the custom for all the friends of the deceased to gather together and dance over the grave, at which times they mourn, yell, and drink. The latter they always do at their own expense, as each mourner brings his own beer or rum with him. These festivities usually continue for eight days, during which time they generally make great disturbances, which not unfrequently end in bloodshed.

DISCUSSION.

Mr. BARRINGTON D'ALMEIDA remarked, with regard to the palm-beer drank by the Quissama tribe of Angola, that the natives of Ceylon, and those of the Malayan Archipelago, were also in the habit of drinking a palm-beer, but this was drawn from the cocoa-nut tree. The stem-bearing portion of the tree being lopped off that part of it in which the cocoa-nuts were suspended, was bent downwards, in the shape of a curve or a bow, at the end of which an earthen or wooden vessel was attached to receive the juice. It has an agreeable taste, and forms a very pleasant beverage. It is known amongst the Malays as the "neeroo manis", or sweet juice. When it is allowed to ferment, it is called "toddy"; and, taken immoderately, has an intoxicating effect. Cocoa-nut vinegar is sometimes made from this liquor.

Dr. CARTER BLAKE saw nothing to impeach the accuracy of Mr. Hamilton's observations respecting the intoxicating fluid, inasmuch as the Indians of Nicaragua extracted a somewhat similar liquid from one of the indigenous trees (*Acrocomia vinifera*, *(Erst.)*), and which was undoubtedly inebriating the instant it was tapped from the tree, without any time being given for fermentation.

Dr. CHARNOCK said the author of the paper spoke of the cannibals which he had come across as having a squalid and unhealthy exterior. It was probable that this might be attributed rather to the circumstances in which they were placed than to the eating of human flesh. It had never been proved that there was any appreciable difference between the flesh of man and that of other animals. It seemed to agree very well with those who indulged in it, for they were generally vigorous and robust people.

The following paper was then read:

On the RACES of PATAGONIA. By Lieutenant MUSTERS, R.N.

IN this paper it is proposed to give the members of the Anthropological Institute a brief sketch of the manners and customs of the tribes which inhabit the tract of country commonly known as Patagonia, as a residence of twelve months, during which I traversed the entire length of the country, afforded me an oppor-

tunity of becoming acquainted with that little-known part of America and its wandering inhabitants.

The name Patagonia is here applied to the country extending from the line of the Rio Negro, about latitude 40 deg. south, to the Straits of Magellan; and is bounded on the east by the Atlantic Ocean, and on the west by the Cordillera of the Andes, although the Chilians, for their own purposes, make the Pacific the western limit. The ordinary notion that this great tract is an inhospitable desert of high barren plains and rocky hills is only correct as applying to portions of the coast line and certain isolated districts of the country. The interior presents abundance of watered valleys, and pasture over which roam countless herds of guanaco and innumerable ostriches, by which name the Rhea Darwinii is generally known. And the numerous horses of the wandering tribes never fail to find food and water.

The Indians (to use the misnomer handed down from the first Spanish discoverers) inhabiting this country are divided into three distinct races, differing in physique and language, and, in some marked respects, in their modes of life. Besides these the Fuegians, or, as the Tehuelches call them, Yamonascunna, though properly inhabitants of Tierra del Fuego, are sometimes found upon the south-west coasts of the mainland; with these I had no intercourse, and their habits have been described by many other travellers, and they are mentioned in order to avoid unnecessary queries.

The Patagonians are called by themselves Ahonicanka, or Tehonek, but are more usually known as Tehuelche or Tehuel people, a name probably given them by the Araucanians, and by which they are generally designated. These are divided into northern and southern. The northern generally frequent the district extending from the Santa Cruz river to the Rio Negro. And the southern range over the remainder of the country from the Santa Cruz river to the Straits. These two tribes are however much intermixed, and, as in the case of the party of Indians with whom I travelled, are to be met with hunting and roving in company in all parts of the country; they are, however, distinguishable by dialectical differences in accent, and differ slightly in physique, and in the frequent feuds and quarrels they display as much hostility as if they were distinct races.

The second race of natives is usually known as the Pampas or Penck, whose district lies between the Chupat river and the Rio Negro; these are an offshoot of the Pampas Indians of the plains north of the Rio Negro, having their head-quarters at Las Salinas near Bahia Blanca. They speak a distinct language, somewhat similar to, but not identical with, that of the Araucanos, and are notably different in physique and feature from the Tehuelche.

The third is a branch of the great Araucanian race, which has its head-quarters near Las Manzanas, in or about the same latitude as Valdivia, from which it is about sixty miles distant, on the eastern slopes of the Cordillera. These may be described as the border race, seldom descending much to the south of the Rio Limay, though they cross the Cordillera to Valdivia and Araucania.

Of these three races the Tehuelche or Ahonican will occupy the chief portion of the time at my disposal, which will not admit of giving more than a short sketch of their manners and customs, and a few very brief remarks on the distinctive characteristics of the others.

The traditionary gigantic stature of the Patagonians is naturally, as I have learnt by experience, the first point as to which inquiries are made. Of the two divisions of the race, the southern slightly surpass the northern in height, but not in muscular development. The average height of the southern Tehuelches is rather over five feet ten, but I have seen many six feet, and some attaining six feet four; the great breadth of the chest and the muscular power of the limbs cannot fail to arrest the attention of any one seeing them for the first time, and it is easy to imagine that if such men came down to meet the first Spanish voyagers, they would, especially when seen dressed in their long mantles, appear of gigantic proportions. Some of the women whom I saw were remarkably tall. The wife of the cacique "Orkeke" was very little short of six feet, and possessed a corresponding robust form and strength of muscle, but the average female height did not exceed five feet six. I never remarked the weakness and want of muscular power in the legs attributed to them by some travellers. They are very active and good runners, and, in their games of ball, display great quickness and strength; they almost invariably travel on horseback, but as an illustration of their walking powers I may mention that two of them who volunteered to go to Buenos Ayres in the sealing schooner, after waiting for several days in the mouth of the river for a fair wind grew restless, and finally walked back to the trading station, a distance of between forty and fifty miles, without food, in about fourteen hours, and when they arrived did not appear in any way distressed, merely remarking that it had been a long walk.

They usually have large heads covered with long black hair, dark sparkling eyes, which give a bright intelligent look to their oval faces. Their foreheads are generally good (retreating foreheads being rare) with peculiar prominences over the eyebrows. Their noses are often aquiline, but varying as in other countries, but generally with a marked breadth of nostrils. Their natural complexion is reddish brown, scarcely, however, deserving the

description as given by Fitzroy, as that of a Devon cow. The naturally scanty growth of beard and moustache is carefully eradicated with a pair of silver tweezers, by the aid of a small piece of looking-glass. Some of the men would be considered handsome in any country, and the lively good-humoured expression of their countenances when in their own homes contrasts strongly with the sullen and downcast expression assumed by them when in the settlements. In the prospect of a fight, however, their expression changed altogether, their glaring eyes and altered features manifesting unrestrained ferocity.

The women, when young, are of prepossessing appearance; when not disfigured by paint displaying ruddy complexions and well cut features. Their hair is comparatively coarser, and though uncut, appears almost shorter than that of the men. They attain puberty at an early age—probably about thirteen years—are frequently married at fifteen years of age, and, from exposure and hard work, speedily become aged.

The dress of the men consists of a waistcloth or chiripa, either of linen, poncho, or a piece of old mantle; but, whatever the material, this article of dress is indispensable. I would remark, in passing, that they scrupulously regard decency both in their persons and habits. The rest of their dress consists of a mantle, about six feet square, made of the skins of the young or, by preference, unborn guanaco, or even of those of the skunk, fox, eamý, or wild cat. The mantle is secured round the waist by a girdle or belt, frequently ornamented with silver, in which the tobacco pouch, knife and ostrich bolas are secured. Their feet are protected by Potro boots made of the skin stripped from the thigh and hock of a horse, or large puma; over these they sometimes wear overshoes made of the skin from the hock of the guanaco. As may be imagined, the footmarks made by them when thus shod would be abnormally large, which gave origin to the name "Patagon," applied to them by early Spanish navigators. They go bareheaded, their flowing locks being confined by a fillet plaited from any unravelled yarn obtained from ponchos procured in barter with their Araucanian neighbours, or from cloth or flannel from the settlements. The women wear a loose calico or stuff sacque extending from the shoulder to the ankle, and over this a guanaco mantle, secured a little below the throat with a silver pin ornamented with a large disk, or, if they are very poor, with a nail, or thorn from the algarroba tree; they also wear when travelling broad belts ornamented with blue beads or copper or silver studs sewn on to the hide; boots of horsehide similar to those worn by the men, with the exception that the hair is left on. The women are fond of ornaments consisting of huge earrings and necklaces of silver or blue beads; the men also wear

these necklaces, and adorn their knife sheaths, belts, and horse gear with silver studs or plate, and such as can afford it indulge in silver spurs and stirrups. The women furthermore lengthen their hair artificially, adorning the long tails with blue beads and silver pendants, but this only happens on state occasions. Both sexes smear their faces and occasionally their limbs with paint. This paint is composed of either red ochre or a black earth mixed with grease, obtained by boiling out the marrowbones of the game killed in the chase; they also tattoo on the forearm by the simple process of puncturing the skin with a bodkin, and inserting a mixture of blue earth with a piece of dry grass.

On state occasions, such as a feast on the birth of a child, the men further adorn themselves with white paint—a powdered gypsum, which they moisten and rub on their hands, and thus make five white finger-marks over their chests, arms, legs, etc. Nearly every morning the men have their hair brushed out with a rude description of brush, by their wives, or if unmarried, their sisters or female friends, who take great care to burn any hair that may be brushed out, as they fully believe that spells may be worked by evil intentioned persons who can obtain a piece of their hair or nails. After the hair-brushing is finished, the women adorn the men's faces with paint; if in mourning they put on black paint, and if going to fight, sometimes put a little white paint under the eyes, which assists, in contrast to the other, in giving a savage expression. The women paint each other's faces, or if they possess a small piece of looking-glass, paint their own. The women on the eve of their wedding-night cover their bodies all over with white paint, and a child on its birth is also similarly whitened.

The tents or toldos of these people, called by themselves "kou", much resemble those of our gipsies, though they are much larger, loftier, and of a squarer form. It is simply and speedily constructed. A row of forked posts, about three feet high, are driven into the ground, and a ridge pole laid across in front of these, at a distance of about six feet; a second row five feet high with a ridge pole; and at the same distance a third row, six feet high, are fixed. A covering, made from forty to fifty full-grown guanaco skins sewn together, and smeared with a mixture of grease and red ochre, is drawn over from the rear, and secured by thongs to the front poles. Hide curtains fastened between the inner poles partition off the sleeping places, and the baggage, piled round the sides, excludes the cold blast.

The duty of pitching and striking the toldos, as well as of loading the hides and poles on the horses, devolves on the women, who show great strength and dexterity in the work. The furniture of the toldo consists of a few hides, bolsters formed

of old pouches stuffed with guanaco wool, and sewn up with ostrich or guanaco sinews, a few lechos or woven blankets obtained from the Araucanos, and the remaining saddle gear. The cooking utensils comprise only an occasional iron pot, and an asador or spit; wooden platters are occasionally met with. The weapons used in the chase are the bolas, fitted with either two or three balls, the first being used against ostrich, and the latter to capture guanaco; and a lazo for capturing wild horses or cattle.

The arms of the Tehuelches consist of gun, or revolver, a long heavy lance, used only by dismounted Indians, and the bola perdeda, or single ball, a most effective weapon in their hands. Pigafetta mentions these Indians as using bows and arrows; this I look upon as an error: he either met with a party of Fuegians, or else with a tribe of Pampas living on the sea-coast, further north, whom I shall shortly have occasion to notice. My reason for stating that he was wrong is simply that no flint arrowheads are met with until the Rio Negro is reached, where they abound. Also there is but little wood nearer than the Cordillera suitable for bows, and it is reasonable to suppose that previous to the introduction of horses, these Indians' journeys were confined to a smaller area. Indeed, one Indian informed me that some caves, existing in a volcanic range south of the Santa Cruz river, were formerly inhabited by Tehuelches. When not engaged in hunting or training their horses, men occupy themselves in making wooden saddles, bolas, lazos, spurs, and other gear, or in working silver ornaments and pipes made out of stone or hard wood, and fitted usually with a silver tube; they also manufacture iron, procured by trade or from shipwrecks, into rings, knives, etc.

Their anvils and hammers for working the silver are generally of stone. They also shape the materials for bolas with hard stones; the scrapers with which the women clean the skins are of flint or obsidian, of which material, probably, prior to the advent of the Spaniards, their knives were constructed. They procure fire by the use of flint and steel, employing as tinder a description of dried fungus, obtained in the wooded districts at the base of the Cordillera. The women's occupations, besides discharging all the household duties and fetching wood and water, consist in dressing the skins and manufacturing the mantles of the young guanaco, fox, skunk, and ostrich skins, using, instead of needles and thread, sharp metal bodkins and sinews obtained from the back of the adult guanaco. The puma, fox, and ostrich mantles, are chiefly manufactured for barter in the settlements. Some of the women also weave garters and fillets for the head, and occasionally work in silver. The children amuse themselves, as usual, by imitating their elders. The boys practise with miniature bolas and lazos, and mount any

horse they can catch ; whilst the girls play at making miniature toldos, and sitting in them.

The Indians evince great affection for their children, indulging them in every way, and never chastising them for freaks or acts of mischief. They are inveterate gamblers, manufacturing their own cards out of hide, and will sometimes remain two or three days without food, as it is unlucky to eat whilst playing, absorbed in games of chance, on which they stake all their possessions. The men, also, when opportunity offers, race their horses, winning and losing heavy stakes on the result ; but I am bound to say that foul play is unknown, and all debts of honour are scrupulously paid on the spot. They also play a game with stones resembling the "knucklebones" of English school-boys, and a game of ball, played by eight players, four on each side, within a ring marked by a lazo laid on the ground : two balls are used, made of hide stuffed with feathers ; the player throws the ball up from under the thigh, and strikes it with his hand at the adversary, each hit counting a point.

They are dependent for food almost entirely on the chase ; the statements that they eat raw meat have probably arisen from their custom of sometimes eating the heart, marrow, liver, blood, and kidneys, raw. The meat is invariably cooked, that of the ostrich being preferred. The most usual method of cooking on the hunting ground is to prepare the bird so as to form a bag, enclosing the meat with hot stones, which is placed on the embers, the broth being thus retained. In camps, they also roast the meat on spits, or sometimes boil it. The iron pots are, however, more generally used for frying out the grease or marrow. Their occasional vegetable diet consists of the roots of a species of wild potato, found, however, only in a few localities, a description of spinach, and a few other plants, when procurable. They also eat the leaves of the dandelion, which is frequently met with in the grassy valleys ; and wild currants, strawberries, apples, and piñones, when in the parts where they abound. In fact, they readily eat any fruit or vegetable products obtainable ; and are great consumers of salt, obtained in sufficient quantity from various salinas. They occasionally chew a species of gum which exudes from the incensebush ; this, however, is intended as a dentrifice. Intercourse with settlements has taught the Tehuelches the uses of tobacco, sugar, yerba, and rum ; none of which, however, are looked upon as indispensable, with the exception of tobacco, which is always prepared for smoking by a mixture of chips of wood : many of them, however, neither smoke nor drink.

On the birth of a child, if the parents are rich, *i.e.*, own plenty of mares, horses, and silver ornaments, notice is immediately

sent to the doctor or wizard of the tribe, and to the cacique and relations. The doctor, after bleeding himself with bodkins, and painting himself white, gives the order for the erection of a tent called by the Indians "the pretty house". The women immediately collect together their mandils, a description of wove blanket, obtained from the Araucanians, and sew them together to form the covering of the toldo; some of the women then place the necessary stakes in the ground to form the toldo, and the young men, taking the mandils, march several times round the stakes to frighten away the devil, the old women singing and crying in a discordant manner, and then draw the covering over the stakes; lancepoles, with brass plates and streamers attached, are placed in front, the whole forming a gay-looking toldo. The men then mount their horses, and after a short interval, mares are brought up and knocked on the head in front of the tent, after which the meat is either portioned out to the several families, or cooked on the spot, all being free to come and eat. Towards evening a fire is kindled in front of the mandil-tent, and a dance takes place after the following manner: The men and women sit down at the opposite sides of the fire, except the musicians, who sit in the tent; their instruments consist of a small drum formed by a piece of hide stretched over a bowl, and played on with two sticks, and a wind instrument, formed from the thighbone of a guanaco, with holes bored in it, which is applied to the mouth, and played on with a small wooden bow, having a horse-hair string, after a preliminary tune and howling on the part of the old women. Four Indians, muffled up to their eyes in their mantles, wearing on their heads plumes of the so-called ostrich (*Rhea Darwinii*), step on the scene; they first of all pace majestically round the fire, then quicken their pace to a sort of little trot; after two rounds the time is quickened, they throw aside their mantles, and appear with their bodies naked, except the waistcloth, painted all over, each one wearing also a strap studded with bells, extending from the shoulder to the thigh. At the moment that the mantles are thrown on one side, they dance in quick time to the music in not ungraceful steps, at the same time bowing their plumed heads most grotesquely, in time to the taps of the drum on either side. When tired, they resume their mantles, retire for a drink of water, and then come on again dancing a different step. When they are fatigued, four more take their places, and so on, till all present have had their turn. When many Indians are present, these performances often last until a late hour of the night. The women, who only participate as spectators, mark their applause of any particularly good dancer by a howl which may be considered a sort of encore. I have on one or two occasions known these dissipations carried on for two or three evenings in succession.

The same ceremonial is observed on the attainment of puberty by a girl. The important event is announced by her father to the cacique, who thereupon notifies it to the doctor. The girl herself is placed in the "pretty-house", and no one allowed to enter it. Marriages amongst the Tehuelches are always those of inclination, and if the damsel does not like the suitor to her hand, her parents never force her to comply with their wishes, although the match may be an advantageous one. The usual custom is for the bridegroom, after he has secured the consent of his damsel, to send either a brother or some intimate friend to the parents, offering so many mares, horses, or silver ornaments for the bride. If the parents consider the match desirable, as soon after as circumstances will permit, the bridegroom, dressed in his best, and mounted on his best horse, proceeds to the toldo of his intended, and hands over the gifts; the parents then return gifts of equivalent value, which, however, in the event of a separation, are the property of the bride. After this the bride is escorted by the bridegroom to his toldo, amongst the cheers of his friends, and the singing of the women. Mares are generally then slaughtered, and a feast takes place. The animals being killed, cooked, and eaten on the spot, great care being taken that the dogs do not touch any of the meat or offal, as it is considered unlucky. The head, backbone, and tail, together with the heart and liver, are taken up to the top of a neighbouring hill, as an offering to the "Gualychu", or evil spirit. An Indian is allowed to have as many wives as he can support. However, it is rare to find a man with more than two, and they more generally only have one.

On the death of a Tehuelche all his horses, dogs, and other animals are killed; his ponchos, if he possesses any ornaments, bolas, and other belongings, are placed in a heap and burned, the widow and other womenkind keeping up a dismal wailing, and crying out loud in the most melancholy manner. The meat of the horses is distributed amongst the relations; and the widow (who cuts her hair short in front, and assumes black paint) repairs bag and baggage to the toldo of her relations, if she has any, if not, to that of the chief. The body, sewn up in a mantle, poncho, or coat of mail, if the deceased possessed one, is taken away by some of the relations, and buried in a sitting posture with its face to the east, a cairn of stones being generally erected over the place. I have never seen any of the graves described in Mr. Wood's book; but as I never travelled much by the sea-coast, they may exist and be the burial-places of some of the Pampa tribe.

A curious custom prevails amongst these Indians with regard to their children. If a child hurts itself while playing, mares are slaughtered as a sort of thanksoffering that it did not die, a pretty

house erected, and a feast and dance takes place. If a child falls ill, the doctor is sent for, and if he says it will live, great rejoicing and a feast take place. The doctors, although they depend chiefly on incantations and magic to perform their cures, must have some other knowledge, which they keep to themselves, as I have known them perform two or three cures when the sick people appeared to be rapidly sinking. I will cite one instance of their treatment which came under my particular notice. The patient, a child of about a year and a half old, was very ill with influenza, and we all thought it would die. The doctor arrived in the *toldo*, and laying the child on its back, proceeded, after patting it lightly on the head, and murmuring an incantation, to place his mouth close to the patient's chest, and shout, as far as I could understand, to exhort the evil spirit to leave the child; after this he took it up, carefully handed it to its mother, who under his directions, smeared it all over with gypsum. This over, it was handed back to the doctor, who had been absent a minute. He then produced a hide bag, at the bottom of which were some charms; into this he inserted the baby's head several times, muttering incantations; after this a white mare was brought up, and after being painted with red ochre hand-marks all over, was knocked on the head, cooked, and eaten, care being taken, as before, that no dogs approached. The liver, heart, and lungs were hung on a lance, at the top of which was suspended the bag containing the charms. Whatever effect these ceremonies may have had, the child recovered. On the death of a child great anguish is displayed by the parents. The horse it has been accustomed to travel on on the march, is brought up, the gear placed on it, even to the cradle, and the horse, when fully caparisoned, strangled by means of lazos, the saddle gear, cradle, and all appertaining to the child burnt, the women crying and singing; the parents, moreover, throw their own valuables into the fire to notify their grief. These things some of the women who cry are allowed to snatch out as a recompense for their services; however, they seldom benefit much.

I have now described most of the principal ceremonies observed amongst these Indians, but have not touched on their religion in any way. They believe in a good spirit gifted with much power, who made the Indians first, and also the animals necessary for their maintenance, which he dispersed from a hill visited by us in our wanderings, situated about lat. 47 degs. south, long. about 71 degs. 40 mins. west. This great spirit, however, according to their ideas, takes but little trouble as to their welfare; consequently most of their religious ceremonies are for the purpose of propitiating the evil spirits, which are several. The chief devil, however, who rejoices in the name of "d"

chu", is supposed continually to lurk outside and at the back of the toldo, watching for an opportunity to do harm to the inhabitants, and is only prevented from causing continual annoyance by the spells of the doctors, which latter are not only supposed to be gifted with the power of laying the devil, but also affirm that they can see him. On an occasion of sickness it is a common custom with these and other Indians to try and drive away the evil spirit by firing off guns and revolvers, throwing lighted brands into the air, and beating the backs of the toldos with lance shafts or bolas. Besides this particular household devil, if I may be allowed the expression, there are many others who live in caverns under particular rocks and rivers; these are supposed to be the spirits of departed members of the medical profession. Their power was, as far as I could ascertain, confined to the districts contiguous to their habitations.

These Indians have also a custom of saluting the new moon, patting their heads and murmuring an incantation. They also salute in the same manner the spirits of the rocks and rivers. I at first was of opinion that they merely saluted these objects as specimens of the Creator's handiwork, but at last was inclined to think that their devotions were directed to propitiate the tutelary demons presiding over them. They have many signs and omens; one peculiar one is the cry of the night-jar, which, if uttered over a camp or toldo, betokens sickness to some of the inmates. They also object strongly to this bird being injured in any way. Another animal looked upon as having powers of witchcraft is a flat, toad-like lizard, common on the slopes of the Cordillera. Its power is confined chiefly to laming horses, and it is killed whenever met with. When about to smoke, the Indians invariably puff a portion to each cardinal point, muttering an incantation; they then lie prone on the ground, and inhale several puffs, which produces a state of torpor or insensibility, lasting perhaps one or two minutes, when they take a drink of water and recover their senses. Sometimes the intoxication is accompanied with convulsions. This intoxication is not confined to the Indians, I myself having frequently, after inhaling tobacco smoke, experienced the same results.

The position of wizard or doctor is not a very desirable one, as in the event of his prognosticating a success in a war expedition, or cessation in sickness, or any other event which is not realised, the chief will not unfrequently have him killed. Wizards are chosen *not* by hereditary descent, but by peculiarities exhibited in their youth. Women are allowed to become doctors, but such are rare. Witchcraft, however, is not confined to these wizards, and sometimes a dying man will state that so and so has caused his death by magic, in which case the person accused,

and sometimes his whole family, are destroyed. Casimiro, an enlightened Indian, for some time under the auspices of the missionaries at Santa Cruz, informed me that when his mother, or one of his wives—I forget which—died, he sent and had a woman killed who had caused the death by witchcraft.

Any instrument, the use of which is not understood, is looked upon as having some connection with witchcraft. For instance, a watch, which they look upon as bringing luck at play; my compass also was in frequent request, and a locket I wore round my neck was supposed to be a talisman securing the wearer from death.

I have not touched upon the language of the Tehuelches, but shall be happy to answer questions as to any words of common use amongst these people, and hope at a future time to publish a partial vocabulary of their language compiled during my residence amongst them.

From the data I was enabled to acquire I should estimate the numerical strength of their population at seventy fighting men of the south, and about two hundred of the northern, making with women and children a total of about 1,400.

Pampas.—North of the Sengel river, a tributary of the Chupat, in latitude 44 deg. south, and about thirty miles from the Cordillera, we joined company with a party of the Pampa or Penck Indians already alluded to. It is impossible now to do more than mention the chief characteristic differences which, besides that of language, mark them out as a distinct race from the Tehuelche. Their stature and proportions are smaller, their countenances are inferior in intelligent expression. The women, however, who seem to have appropriated the marks of the not infrequent admixture of Spanish blood, are, as a rule, better-looking than the Tehau of the Tehuelches; the men when mounted on horseback are armed with peculiar long light lances, the shafts of which are made from a cane resembling bamboo found in the Cordillera. As to their religion I have reason to believe that they are worshippers of the sun; they however practise similar rites to those already described for propitiating the evil spirit, who is known by the same name. One custom not practised amongst the Tehuelches is a ceremony the Pampas perform before drinking intoxicating liquor. Four lances are pitched in the ground, round which the chiefs walk, each carrying a pan-ikin containing a little liquor which they sprinkle partly on the lances and partly on the ground, muttering incantations all the time. These Pampa Indians I believe to have been the race armed with bows and arrows met with and described by the early navigators, and to have been the original inhabitants of the valley of the Rio Negro, where great quantities of flint arrow-heads and

stone pestles and mortars are found, near Indian burying places, dissimilar to those of the Tehuelches. As to the probable use of these mortars by people to whom grain was unknown, I am inclined to conjecture that they were used to pound the algarroba pods into a paste, such as at the present day forms an article of food amongst the Pampas. These Indians are expert in the use of the sling, with which they used formerly to chase the eamy, partridge, and other small game abounding in the Rio Negro. The numbers of the Pampa tribe south of the Rio Negro are gradually diminishing, principally by the agency of smallpox. At the time of my visit their whole population was perhaps under six hundred.

The third distinct tribe are called, by the Tehuelches, Chenna or Araucanos; some of them are also known as Moluche; they are also called Manzaneros from the station of Las Manzanos or the apple-trees, the headquarters of their chief cheoque. These are an offshoot of the warlike Araucanian race, who ever since the first settlement of the Spaniards have waged war against the invading race with varying success but have never been conquered. They are a decidedly superior race in intelligence, knowledge, and character. They are at once recognisable by their finer features and fresh complexions; they cut their hair short, and are, as a rule, well dressed, in ponchos woven from home-made yarn by their women. The general appearance of the first party we met with, while still too far off for the colour of their eyes to be discernible, struck me as so peculiarly European that I remarked to the Tehuelche next me in the ranks, "Perhaps these are my countrymen?" He answered, "They are very white, but very much devil; perhaps they'll fight us." These Indians are far less migratory in their habits, and greatly dislike travelling, more especially the women, who invariably remain behind when the men go on hunting excursions, or pay visits to the settlements, either for peaceful trade, or, as frequently happens, for the purpose of plunder. Their ceremonies are much the same as those of the other Indians; they possess some knowledge of precious stones, to which they attach value as having particular virtues. Some clans of these Indians north of the Rio Limay or Rio Negro occupy stationary dwellings made of skins, but much larger, and exhibiting greater regard for comfort than the toldos of the Tehuelches. They also possess large flocks of sheep, herds of cattle, and horses. In the country apples and piñones abound, which they gather every autumn. Of the apples they make cider, and also prepare an intoxicating drink from some other plant; I think the algarroba.

Like the Pampas, they are armed with long light lances, which they use with great dexterity. The chiefs maintain strict disci-

pline, and I have seen their assembled forces, each squadron with a captain or leader at its head, manœuvre like disciplined troops. Their language appeared to me to be much softer in sound than that of the Tehuelches, and resembles in some measure the Pampa tongue. The Moluche women are remarkable for their modesty and good looks, one of their chief charms being their beautiful black hair, which is of great length and fine texture, and of which they are justly proud. This race alone resisted the aggressive power of the Peruvian Incas, and a conjecture that some of the fugitives of that Royal race took refuge amongst them, was suggested to my mind by the light complexion of some of their families, and by the occurrence of the name "Manco" as that of a man who was killed during my sojourn in their country, and who, I was told, was the descendant of a great chief. Altogether these Araucanians are a far higher and more cultivated race than the Pampas or Tehuelches. Their numbers in Patagonia proper, viz., south of the Rio Limay, may be estimated at three hundred men, women, and children, which at a rough estimate would give the numbers of the Indians of Patagonia as amounting to about two thousand five hundred.

DISCUSSION.

Mr. D'ALMEIDA begged to observe, on the races of Patagonia, that he saw a similarity in some of their customs with those of the Chinese and the eastern races. Painting or daubing the body with the dyes or flour extracted from the leaves or roots of farinaceous plants, was a common practice with the Javanese and the natives of the Malayan seas. They burnt their hair for similar reasons to those assigned by the Patagonians. The offering of the bull's-head was also common among some of the Javanese. Mr. d'Almeida witnessed one of these ceremonies. They call it the "festa Boomie", an offering to earth. As to burning the goods and chattels of the deceased, Herodotus mentions that the Scythians practised this ceremony. Fenimore Cooper described a similar ceremony, he thought, in his "Last of the Mohicans", and it is a subject of a poem by Longfellow. The Chinese, like the Patagonians, also believed in the existence of a good spirit, though they bowed down and burnt candles to the bad spirits, because the latter required more praying to than the former. He made these observations merely to show the similarity of customs prevalent amongst nations and races, though wide apart from each other.

Lieut. MUSTERS said that the method of ascertaining an average height of the Patagonians, and also the difference of stature between the northern and southern tribes, was obtained by the author of the *per t^{ab}* the average of eighteen able-bodied men, in whose company *nd*. Of these, ten were of the northern tribe *rn*, the latter exceeding the others in a *ight*. The obsidian and flint articles

were confined to scrapers used by the women for cleansing skins, and flints for obtaining fire. There were no traditions regarding the migrations of tribes extant amongst the Indians. It was impossible to obtain information of their forefathers from the Indians. The disposition of the Tehuelches was, when not excited by drink or warfare, cheerful and good-humoured. They treated Lieut. Musters with great kindness. They were particularly fond of their children. During the author's visit and travels in the country, all the tribes were mustered for political purposes: being on the staff of the head chief, he took notes of the numbers of each tribe: from these data he made his calculations, allowing four women and children to each able-bodied man. The numbers are probably slightly under than over the mark.

The following gentlemen also took part in the discussion on the above: viz., Mr. J. J. Monteiro, Col. Lane Fox, Mr. Charlesworth, Mr. Wade, Dr. Richard King, Mr. Wake, Mr. H. Howorth, Mr. Lewis, and the Chairman.

Dr. W. EATWELL contributed the following note "*On Chinese Burials*".

I was surprised to find the whole island of Koolungsoo (Amoy) studded with tombs, there being apparently no special place of burial; and I subsequently learned the explanation of the fact. The Chinese, in burying a friend or relative, attach much importance both to the locality and to the position in which the body is placed. If misfortune visit a family or individual after the death of a relative, it is generally attributed to the probability of the body having been placed in an uncomfortable position or unsuitable locality. Priests are, therefore, consulted, the body is exhumed, and a fresh interment takes place under circumstances more favourable. This fact explains the great anxiety which the Chinese display to carry off their dead and wounded, which they have frequently been seen to effect in face of a heavy fire. These tombs are very neat, and are always surrounded by, or included in, a more or less circular space, bounded by a stone railing, or, more generally, a slightly raised kerb-stone boundary.

There are, on the eastern side of the island, directly facing the city of Amoy, several tombs of Englishmen, Spaniards, and Portuguese, and it is pleasing to see that these have been religiously respected by the Chinese. Amongst the tombs which I have mentioned is one in which time has not succeeded in effacing the inscription. It bears the date of 1697, and covers the remains of — Duffield, son of Commander Duffield, of the *Trumba*, from Surat. Some of the tombs appear of greater age than the above, and, therefore, may be supposed to have been erected nearly two centuries ago. The state of these tombs testifies to

the respect which the Chinese entertain for the remains of the departed.

One day, whilst wandering amongst the rocks,* we discovered in a deep space, enclosed by two fragments of rock lying one against the other, a large jar, covered by a lid cemented down by wax. On opening it, we found it to contain the bones of a human skeleton. These were arranged with great order. The long bones of the upper and lower extremities were placed round the circumference of the jar in an upright position, and within these were placed the pelvis, the scapulæ, the tarsal and metatarsal and the carpal and metacarpal bones. These latter (the bones of the hands and feet) were wrapped in paper, apparently with the view of preventing the bones of different extremities becoming mixed. The interstices between the whole were filled with shreds of paper; and the skull was placed on the top of all, enveloped in a red woollen cap sewn tightly over it. The bones appeared evidently to have been buried for some length of time; to have been then exhumed and placed in their present position. I am not acquainted with the class of persons who bury in this manner, nor do I know the object sought by such mode of interment.

The above notes were made during our temporary occupation of the island of Koolungsoo during the summer of 1842. The place had been captured, and the inhabitants removed from the island to the city of Amoy, on the mainland.

THE following notes were communicated by Dr. CAMPBELL, and taken as read.

On the Discovery of a Cairn at Khangaum, by J. J. Carey, Esq.—In October last, I saw an announcement of the discovery of numerous stone circles, mounds, and cairns, at Khangaum, in the province of Nagpore, Central India, by Mr. Carey, the Executive Engineer there. I addressed him, requesting that he would favour me with some account of his explorations for this Society; and I have now the pleasure to communicate his replies, with sketches of some of the articles found in excavating one of the mounds at that place, of which there are about one hundred and fifty altogether.

A. CAMPBELL.

March 18th, 1870.

Khangaum, Berar, Dec. 26, 1869.

My dear Sir,—At present I shall answer yours of the 27th October briefly; but I trust, before long, to send you a copy of a hurried report I wrote just before leaving Nagpore. I had intended sending sketches along with this report; but my time has been so taken up

* Bald masses of granite bared by disintegration and denudation.

since I came down here on the first State railway made in India, that positively I have not had time to finish the sketches I had commenced. You shall not fail to have them, and an account of my "diggings", which were about one hundred miles from Kamptee, west. I accidentally spied them whilst riding along a jungle-road to join a tiger-shooting party. Unfortunately, the rains forced me away from the locality; otherwise I might have made a more successful find. In all my wanderings in India, I have never seen anything like these stone circles and mounds. Near Jurrespore, I was very lucky in finding stone celts (these mounds or graves contained nothing but iron implements) and stone chips and cores; the former were always found on "mahadeos", under a teipul or neem tree; the latter in "spots" on some raised elevation. Walking along, you would accidentally come upon spots, and then pick up pockets full; it seems to me that when men found good flints, agate, jasper, etc., they squatted down working away at them, making their knives, arrow-heads, etc. Stone "whorls" I have found, but in no particular spot. I have got a stone celt, seven inches and a half in length, exactly in size and form like one an uncle of mine found in Guernsey. I have got a couple of stone celts found in Australia, just like the Indian ones; in fact, they are as similar in all parts of the world as our table-knives are now.

I remain, my dear sir, yours truly,

J. JAMES CAREY.

Khangaum, Berar, Feb. 5, 1870.

Dear Sir,—I send by pattern-post a rough sketch of the principal things I found in digging into those stone circles. See also enclosed printed paper. I had intended sending you drawings of all the stone celts, whorls, bronze celts, spear-heads, chips, cores, etc., I have; but all my heavy kit being in Nagpore, I am unable to do so. At some future period I hope to do so.

This morning, I heard that further diggings had been ordered by Government to be made at the same place as I made mine; "but that only a few things had been found; viz., an earthen vessel, with a handle in the form of a fish, a knife, and one or two other things, but nothing in gold." "In one there were several blocks of cut stone, all the same shape."

I remain, dear sir, yours very truly,

J. JAMES CAREY.

I send drawings of two celts (stone): the one to the right was found by me on a "mahadeo", under a banian tree, about thirty miles north of Jubbulpore; the other was given to me by an officer of the 40th, who brought it from Australia. I cannot tell you the *locale*, as my diary is at Nagpore.

*Memorandum by J. J. Carey, Esq., Executive Engineer, Khangaum,
dated the 8th August, 1869.*

The Scythian remains, or stone circles, lately found by me near the village of Khywarra, about sixteen miles east of Arvee, in the

Wurdah district, were opened by desire of Mr. Morris, Chief Commissioner, Central Provinces. The stone circles are on the east bank of a nullah running due north and south, the ground rising very rapidly 12' 5" in 1400 feet. I should think there are quite one hundred and fifty of these mounds, dotted about in no regular form, along the edge of this nullah. In outward form they are precisely the same as those illustrated in Captain Meadows Taylor's book, with large stones rather evenly placed round. Numbers of these stones appeared to me to have passed through stone-dressers' hands, they having five sides rudely shaped, which makes me think they were originally intended to have been placed upright, not in the position found; however, nothing was found to indicate that any building was erected here; still it is strange that these five-sided stones should be there, and found lying flat on the ground. I am sure they were never intended to be placed in that position. The mounds in every case were hollow at the top, making me think that a chamber would be found underneath; that the stones forming the ceiling had probably given way; but, on opening two, nothing was found to guarantee such an idea.

I commenced digging operations on the principal mound in the place, 40 × 13 in diameter, there being more cut stone surrounding it, and three or four in the centre; very great care was taken in digging and removing stones. The top of one of these five-sided stones was hit upon close to the surface, and in the centre of the mound; this was carefully left standing while operations were going on up to one foot deep. Nothing but loose stones and earth was removed, until, about fifteen inches from the surface, broken red pottery began to show on the south side. At last, some stiff leaden-coloured clay was found, fast binding pieces of pottery; and, on close examination, large quantities of teeth were found, which evidently had been put into a gurrah and imbedded in this clay. These bones are, I believe, the back teeth of horses, in very good preservation. This clay then began to be found in patches, in which, as a rule, you always find pottery and other implements, and appeared in no other place than on the south side.

I was standing one evening looking on, when all of a sudden I saw a "find", and immediately jumped down into the hole, and, with the greatest care, dug out of the clay, well cemented together, two copper bells, two round copper (in my opinion) ear-rings, and an iron axe. These I handled with the utmost care, vainly hoping that the whole would remain in this solid state; but, after a few days, the heat of June soon dried up the clay, and the whole became detached. This, and a few iron implements and a gold ring, were the only things found. This excavation was carried down about 2·6 feet.

In the other we went down over three feet from the surface, and nothing but iron was found, very rust-eaten. The only implement in good preservation was a kind of saucer for holding oil, which had a handle, with a hook to hang by, and a spiral spring, which must, I think, have been wound round a stick.

On a Kist found in Argyllshire, by Dugald Sinclair, Esq.—During last session, I presented to the Ethnological Society two reports from the Rev. Mr. Mapleton on prehistoric remains found in the neighbourhood of the Crinan Canal, Argyllshire, which were published in the *Journal*. I have now to submit a note from Mr. Dugald Sinclair, on an urn and kist found by him on the south side of West Loch Tarbert, Argyllshire. This site is about thirty miles distant from that of Mr. Mapleton's findings. I am endeavouring to procure reports from other parts of Scotland, similar to Mr. Mapleson's, for this Institute.

March 13, 1871.

A. CAMPBELL.

Gartuagrenach by Tarbert, Argyllshire,

October 17th, 1870.

My dear Sir,—I have had the pleasure to receive your letter, and shall endeavour to give you the best description I can of an ancient relic which was discovered on my late farm of Kilchamaig eighteen years ago.

Whilst one of my servants was ploughing on a field in that farm, his plough came in contact with a flag-stone, which lay within about six inches of the surface. On turning up the flag, he discovered under it a small sepulchre, about two and a half feet long and eighteen inches broad, within walls, formed of coarse flag-stones on each side, and at both ends, and at bottom. Within this small enclosure he discovered an urn of rather a tasteful shape, neatly notched on the outside with a shell, or some such tool, and with knobs round the top of the urn, perforated as if for the purpose of running a cord through these perforations, to be used by the pall-bearers. Within the urn there was a quantity of material, something like ashes, and along the bottom of the sepulchre there was a quantity of human bones, in small pieces, which, for the most part, fell into dust on exposure to the atmosphere. There was no lid to the urn when brought to me; but my servant was of opinion that it had been broken in the disinterment. The flagstones referred to were put on edge, and were of the quality of rock prevalent in that neighbourhood. I got the grave secured by the flagstone which originally covered it, depositing, at the same time, what remained of the bones, which, however, had become very much crumbled by exposure to the air.

The grave was discovered in rather an elevated part of a field, about two hundred yards off the more modern burying-ground named after St. Michael; but, although I made diligent digging all round the sepulchre referred to, I did not discover anything appertaining to a place of interment. From the short space within the grave, and size of some of the bones, it is evident that the body which it contained must have been burnt before interment, and that probably the urn contained the ashes of the heart and other vital parts of the body; and, as no burning of human bodies took place in this country after the introduction of Christianity, I, therefore, think that we may safely

conclude that such took place in this case fifteen hundred years ago. I enclose a rough sketch of the shape of the urn.

I remain, my dear sir, yours very truly,

D. SINCLAIR.

Arch. Campbell, Esq., M.D.

Dr. GEORGE HARCOURT exhibited a Flint Implement, found near a stream flowing from Virginia Water; and a Bronze Celt discovered in the root of a tree, in the parish of Thorpe, Surrey.

The meeting then separated.

JUNE 19TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read, and confirmed.

GEORGE LATIMER, Esq., of Puerto Rico, West Indies, was elected a Local Secretary for Puerto Rico.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the AUTHOR.—*Progrès de l'Hellenisme* Conference, 1871. Major Millingen.

From the AUTHOR.—*Moas and Moa Hunters.* Dr. J. Haast.

From the ACADEMY.—*Proceedings, Memoirs, etc., of the Hungarian Academy of Sciences.*

From the INSTITUTE.—*The Canadian Journal*, vol. xiii, No. 1.

From the EDITOR.—*American Eclectic Review*, May 1871.

From the SOCIETY.—*Bulletin de la Société Impériale de Moscou*, No. 2. 1870.

From the EDITOR.—*Nature*, to date.

From Dr. W. A. HAMMOND.—*The Journal of Psychological Medicine*, April 1871.

From the INSTITUTION.—*Journal of the Royal United Service Institution*, No. 62.

From the EDITOR.—*The Food Journal*, June 1871.

From the SOCIETY.—*Bulletins de la Société d'Anthropologie de Paris.* 1869.

Professor BUSK, F.R.S., exhibited two human jaws of remarkable thickness, found in the superficial deposit of a cave near Sarawak, Borneo.

Mr. JOSIAH HARRIS exhibited, from the Macobi Islands, off the coast of Peru, wood-carvings, pottery, and cotton rags. The rags extended many hundred yards, with an average thickness of five feet, and below a deposit of several feet of guano. The wood and pottery were discovered at a depth in the guano of from fifteen to forty-five feet.

Mr. G. M. ATKINSON communicated the following note "*On a Kitchen Midden in Cork Harbour.*"

I have much pleasure in recording the existence of two hitherto, as far as I am aware, unobserved heaps of shells, of the kind now generally known by the name of kitchen-middens, situated on two small islands, at the back of the estuary forming Cork Harbour. Last August, while enjoying a boating excursion, my attention was attracted by some white marks on the shore; which, from my observation of those on the coast of Denmark, I inferred were kitchen-middens; and, on landing, I had much pleasure in finding my conjecture to be correct.

The islands are named on the Ordnance Survey maps, sheet 76, Brown Island and Brick Island, and consist of a mass of loose earth, full of boulders of all sizes, the *débris* of some old sea bottom. There are no trees, nor, as far as I recollect, any evidence of their existence at present on the islands; which are now overgrown with rough heather, furze, and ferns. The heaps of shells are situated on the south side of each island, and are about three hundred feet long, from three to five feet thick, for about a hundred feet, and consist principally of oyster-shells. There are other shells, but in very small numbers. The sea has washed away a considerable portion of each heap, thus opening up a good section, and affording facility for exploration. Part of the shells have been removed for agricultural purposes from that on Brown Island; and there I found, by observing a thin layer of charcoal visible in two places in about the middle of the heap, that the aborigines who collected the shells understood the use of fire. The sections exposed gave evidence of different periods of occupation of these sites, by a looseness in some places and compactness of the shells in other parts. There was a visible regularity or placing together of the shells in parts of the heap on Brick Island.

I visited these kitchen middens again on the 8th of September, but regret that my exploration was very imperfect: they will, I am sure, repay further examination. Their position on two small islands, approachable only at one fordable point, shows that the people had a good idea of security, encamping on places easily defended, either from wild animals or assaults of other enemies, while they indulged in a good feast on the oysters.

With the exception of the charcoal, I found no evidence of civilisation, no split bone or flint flake ; nothing but stone hammers or pounders, varying in size, some larger than a man's head, but all of the same round boulder-like form, similar to the stones that formed the beach. Two from the middle of the heaps are exhibited. Mr. R. Etheridge, of the Geological Survey, has kindly examined the shells exhibited : there is nothing peculiar about them ; such are common on all parts of the coasts of the British Islands.

- c. *Ostrea edule*, junior and seniorOysters.
- b. *Mytilus edulis*Mussels.
- Cardium edule*.....Cockles.
- a. *Pullastra decussata*.....
- Littorina littorea* (*vulgaris*).....Periwinkles.

Mr. J. W. FLOWER exhibited a large jade implement from New Zealand.

The following paper was read :

MODE of PREPARING the DEAD among the NATIVES of the UPPER MARY RIVER, QUEENSLAND. Extract of a letter dated October 1870, from Mr. ALBERT McDONALD. Communicated by W. BOYD DAWKINS, Esq., M.A., F.R.S.

THE following account describes some of the customs which the "black fellows" are so careful to conceal from the English settlers. Mr. McDonald, having succeeded in gaining the confidence of the natives, was treated in every respect as one of themselves. A "black fellow"—the stepson of a chief—had died, and he resolved to see what they were going to do with him. What he saw was as follows :

When we reached the camp, there were some half-a-dozen boys and young men (whites) who had walked out to see them. The blacks were very glad to see me, for the poor black fellow was dead, and they asked me to send all the others away ; so I explained to them that they had better go, and I sent George with them. When they had fairly got away there came the "tug of war"; the natives ordered me home. I put my brightest smile on, and reminded them of their promise ; still no use ; "never white fellow see black fellow dead." I considered for a few minutes what I could do ; and, while considering, I took a good look at the whole of them. I counted ten men, and about as many women, and the usual accompaniment of boys and girls and little children ; and then on a sheet of bark that was across a couple of saplings lay the corpse, covered with opossum ruga.

I saw they were mostly looking at me, and the men certainly did not look pleased. I then called my man Billy aside, and asked him the reason, and gave him to understand that when I made them a promise I always kept it, and now I expected the same treatment from them, and that I was fully determined to stay and see the operation. To make my story short, I got a reluctant consent from two of them; they then explained to the others; some of them said "all right", but some of them said nothing, but their looks meant that if they only dared they would get rid of me.

I was now informed that the ceremony never took place in the camp, and that they were going at once, so I had better follow. Four of them got the body on their shoulders, and walked away at a smart pace right out into the forest, and all followed, without any attempt at order. As I kept pretty near the last, I had a fine view of this funeral procession. First went the four carrying the body on their shoulders; and alongside of them the mother dancing and wailing all the way, and a sad sight she was, all covered with blood; and there was the step-father, roaring at the top of his voice every now and then, and the men all around with spears, and "hullah" crying and roaring; and, of course, all were quite naked. I got into conversation with a "gin", who seemed very intelligent, and she explained to me that there were certain places only where they skinned them, and that we were not going very far; nor did we, for in about twenty minutes we came to a halt: down went the corpse; and, after taking a good look round and talking the matter over, they prepared to commence. Those who were not going to take an active part, sat down at a little distance. I was now, I admit, a little excited. My long wished for scene was about to be observed, and I knew that to attempt to take notes on paper would at once arouse their suspicions, and perhaps spoil all. So I tried hard to prepare my mind to note as much as possible.

First thing, the chief took his station at the head of the body, spear in hand, and remained there the whole time, evidently on the look-out for some expected enemy (who did not come); he also at intervals kept up the roaring. Several of the men and women collected wood, and started a fire on each side of the body—perhaps six feet from it. While the fire was burning up, a good supply of bark was collected, and some put near each fire. I then observed one of them bring in "bloodwood" saplings, about four or six inches in diameter, cut into lengths of about five feet each. They were held in the fire till the bark was all charred off; then they were carefully put leaning against a tree on their ends. All seemed now ready; some of them lighted their pipes, and again all eyes were directed on me. I

was leaning against a tree on the side of the ring next to home, although I knew perfectly well that, if they really intended mischief, it would be of little use running away from their spears. A couple of them then came up to me, and told me that I was a good fellow, "no gammon about me"; I was admitted amongst them, and I was all the same as a black fellow now; and they told me that if I saw any other white coming they would tell me, and I was to go and persuade them to go away; for they said (clutching their spears) "we will not let them come"; and really they looked as if they would certainly be as good as their word.

The rugs were then removed, and this was the signal for a fresh outburst of grief; the women again cut their heads with the tomahawks; and I can give you my word that there was no doubt about it, for at a distance of several yards I could hear quite distinctly the thud of the weapon upon the bone. They cut the crown of the head. When they had had a few chops each, the men took the tomahawks from them; they quieted down again, and at length commenced operations. I then saw that my Billy was chief operator: he and another got each of them a piece of bark, and held it in the fire for a minute, and then applied it to the skin of the body, beginning at the breast. As the skin got heated, the outer skin was peeled off with their nails in little pieces; in fact, I think it was more like singeing and scraping it than anything else. The small pieces of skin were carefully put in a little "dilly bag", and now the charred saplings came to be used. As soon as a little piece was cleared off the black skin, the skin underneath looked like a dirty reddish white, which was at once blacked with the charred bark. The wind was very changeable, and, as there was a queer smell that came from the legs, I kept moving with the wind. Whilst they were busy, an old "gin" came up, who had been away getting yams; but, as soon as she got close up, she seized a tomahawk, and commenced the skull chopping game; the chief ran up, and, after a struggle, got it from her; he then very affectionately wiped the blood from her head with a handful of grass; she then came and sat down at the head of the corpse, and, crying very hard, put her foot on the head. I noticed that every new comer (there were several) did the same.

As the skinning or scraping was a tedious process, I had a little time to spare, and had a good long talk with the chief and several of the other men who were on the look-out. I was glad when they asked me what I thought about death, what became of them, etc. I had a good opportunity, and did my best to explain the hope which we have. I should have said that, as soon as the body was uncovered, an old man, who is said to be

king, commenced and carried on an imaginary conversation with the spirit which they still seemed to think was in the body. They asked all kinds of questions, such as "Where are you now?" "What sort of place is it?" "Have you seen your father yet?" "What is he doing?" and then the refrain, "Why did you leave your poor old mother? She has no son to hunt for her now."

When the breast was all scraped and charred, they got ready to turn the body, and evidently this was an important part of the ceremony. All hands got close round, and then one at the head and one at the feet; he was lifted steadily but quickly, and turned completely over, the whole mob of them giving a great whirr as they did so. I at once remembered having seen them doing the same thing on their grand Corroberie; the men all stoop and give their arms a long swing from right to left, at the same time making the whirring noise. The back was done in the same manner, and then all hands had a smoke. The body now shone and looked quite smooth, as the charcoal had been well rubbed in, and it was lying straight stretched out, the arms at right angles with the body, back uppermost. A piece of red raddle was now produced, and Billy commenced to mark it, all of them at the same time giving their opinion as to how the marking should be done. Standing over the body, he felt for the backbone, close up to the neck, and then with his fingers measured what seemed about two inches on each side of the backbone close up to the neck, and then drew a line down each side of the backbone, right over each hip, and so on down to the ankle of each leg. Then from the top of each of the lines, beginning at the neck, lines were drawn at right angles down each arm to the wrist. After the lines were drawn Billy sat down for a few minutes. I was at a loss to know the meaning of these red lines; why two of them should be made I could not make out. Presently Billy and another black got a knife each, and the real skinning commenced, and in no nice or gentle fashion. Billy, putting the knife in just as I would have done into the hide of a bullock, made a long straight cut following the line, and then commenced to skin in earnest. Very soon the arms were skinned, the hands dexterously cut off at the wrists, and left attached to the skin; the sides were next skinned and right down over the hip, thus leaving a strip of about four inches wide down the middle of the back. When as much was skinned as they could get at without turning him over, this strip was commenced with, but I think they were fully half an hour taking off this narrow strip. Four men took hold of the body, one to each arm and leg; a fifth held his head between his legs and hands; another now got across the body, started the strip with the knife until he raised a piece that

he could get hold of, he then fixed his feet firmly and got ready for a pull.

The old king now knelt by the head and spoke in a very excited manner to the dead man, after which they gave a great pull at the skin ; but it appeared to me that he was very unwilling to part with this portion of it, for they had to appeal very often to him, and once or twice they had to ease it with the knife. At length they stripped down as far as they could. The body was then turned over for the last time—the strip then had the appearance of a tail, as it was put between the legs. They now skinned the front of the legs, and then pulled away at the tail again—it was pulled right up over the privates. I now saw by this method the skin was entire at the front, and it seemed to me that it was the best way it could be done. During the whole time the head was wrapped up in a cloth, never uncovered ; now when the whole body was skinned, they had the final conversation with him before cutting off his head. It came out then that grog was the primary cause of the fit of madness. I suppose it was *delirium tremens*, for the last words were, “ why were you so foolish as to eat so much grog ? ” Poor fellow, his head was now cut away, and as it was too late to stretch the skin that day, it was put in a “ dilly-bag.” The skin is stretched on spears and dried in the sun, the spears being so charmed by the process that ever after, when they are thrown at an enemy, they cannot miss ; hence, when a death takes place, all are anxious to get their spears used.

As soon as the skin was disposed of, Billy cut off the legs at the knees, then opened out the thighs to get out the bones, which were twisted out of the joints ; the shoulder blades were left attached to the arms at first, and there lay the trunk, head, arms, and legs gone, and nearly all hands busy, gins and all : one had a skin with the foot, another the arm up to the elbow, and so on, all scraping and cutting away the flesh from the bones : the trunk was cut open, and then I saw an old gin rubbing herself with a piece of fat. It was so sickening that I confess I got rather muddled, and I had a dreadful headache, with the excitement, the smoke, and stench. I am so sorry, for just then Billy cut out of the chest, I think, a piece of something which all examined very closely, and I stupidly did not ask for it to look at. It was said to be the stone which some hostile black always put into them, and is always the cause of death, if they are not killed in battle. While they were busy examining this, the look-out saw a white man in the distance. I went and got him to go away. When I got back they were still busy, and great lumps of the meat were roasting on the fire. I asked a gin very cautiously what was to be done with the meat ; she said, Dig a hole and put

it in. I pointed to the roasting; she, however, denied that they ever ate any now. Soon she and another gin commenced to dig a hole each close to the fire; these holes were lined with grass. She said the meat would be put in and be covered up, and a large fire made on the top of it, so that the native dogs could not get to it. Just then the cry, "white fellow!" was again heard, and when I looked, I saw a neighbour, not very far off. I was going over to tell him not to come, but they were afraid of him getting too near, I think, for Billy snatched up a spear, ran past me, and stood right before him: "You must not come here," holding up the spear—"you go away." He took the hint and went back. My head ached very bad, and as I thought there was little more to be seen, I went away with him. They, however, called me back, and asked me if I would lend them a little flour, as they could not eat meat now; so they sent a couple of gins home with me for the flour, and I was very glad to get home and get a cup of strong tea.

They abstain from kangaroo for several weeks after a death. I am still in a fix about the eating of the flesh. They all admit they used to eat it, but they all deny eating any now, and I foolishly came away without seeing the end of it, but I was used up, and if I had stayed, I do not think they would have eaten it in my presence.

I have not stated that both men and women cut themselves severely as a token of grief—the men on the body and legs, the women on the crown of the head, and body, and legs. The mother in this case was cut from head to foot; the father from the hip to the ankles.

The following note was read:

On some FORMS of ANCIENT INTERMENTS in Co. ANTRIM. By
J. SINCLAIR HOLDEN, M.D., F.G.S., M.A.L.

THE population of the north-east part of Ireland has undergone so many changes within the last few centuries, that it is not to be wondered at there should be rather a paucity of structural relics, as compared with the south and west, where the purer Celtic race still flourishes, and cherishes the ancient remains bequeathed to them.

There is one portion of co. Antrim called the Glens, which has up to the present time been occupied by a remnant of the "old stock", speaking the Irish language, and presenting many of the characteristic Celtic traits, though very likely another generation or two will see obliterated these already fading features. This ethnological "preserve" is probably owing to the nature of the country: the bold rocky coast, mountain ranges,

and deep valleys, have longer held back the Saxon tide from the glens of Antrim. It is here some of the oldest relics of the past are to be found in greatest abundance, as compared with other parts of Antrim. Lines of raths may be traced for miles and miles in sight of each other, and venerated pillar-stones stand as familiar landmarks and guides.

But the most interesting remains are those connected with interments by cremation, the mode once almost universally followed here by the ancient inhabitants. It is very common for old farmers to tell of finding on their lands, during their young days, pots or crocks, containing ashes; in some the site of interment was unmarked, in others a large rude stone was close by. Nor was it unusual for two or three of these urns to be found together. This was the simplest of the forms of interment, and likely to be adopted by the common people—the body burned, and the ashes placed in a rude urn; a slab covered the mouth, on which the urn often lay inverted.

Of the structural forms of interment, the Earl of Antrim and I have found and explored three kinds in the vicinity of Glenarm, of which the following are examples.

1. Constructed of eight standing stones, close together, forming a small lozenge-shaped enclosure, with a large slab lying partially on top like a cromlech; in this, when about two feet of earth were removed, were found the remains of four urns, charred human bones, ashes, and bits of wood charcoal; evidently showing that this structure was erected to mark and protect these interments. As very usual, along with the urns were found a number of worked flint implements; these consisted of saws, scrapers, and lance-heads.

2. The next form is much more complicated in structure. Here an oblong enclosure, thirty-five by sixteen feet, placed north-east and south-west, was formed by twenty-six pillar stones; within this enclosure, at the south-western end, is what appears to be a cromlech, and, running from this to the north-eastern end, is a covered passage, or alley, four feet square and twenty-one feet long. In this passage, fragments of urns and charred bones were found: showing that, though this structure may have been used for some religious ritual, it was also a place of interment.

3. This had the outer appearance of a barrow, with an apparent diameter of about thirty feet, but, as one side was much disturbed, it could not be pronounced either round or long. In the centre, three feet from the surface, was found a pavement of large slabs of basalt, ten feet by four, and lying north and south. On the south end was a square cist, rather disturbed, enclosing a circle of six slabs, which surrounded a large urn, lying in-

verted on a smooth flat stone. The urn contained partially charred human bones, much less broken and burned than usual. The lower jaw and cranial fragments were highly suggestive that they belonged to an old man of small stature, and brachycephalic. Lying to the east of this principal interment were found the *débris* of seven or eight urns, smaller, and, as usual, with quantities of bone-ash; a few worked flints and a blue glass bead were also obtained.

The cinerary urns used in these different forms of interment are very similar, manufactured of a coarse pottery, with ornamentation simple and rude, the twisted thong and finger-nail pattern, separate and combined, being common; but sometimes a few zigzag flint scorings round the neck were the only decoration.

Though the structural forms of interment differ so much over so small an area, yet it is highly probable that all were erected by the same race and people, who thus showed their reverence and respect for the dead, according to the rank they held while living. The total absence of metal, and presence of worked flint, do not allow their civilisation to be placed higher than the Neolithic period.

The following paper was read:

On the ANALOGIES and COINCIDENCES among UNCONNECTED NATIONS. By HODDER M. WESTROPP, M.A.I.

It affords one of the most interesting proofs of the intellectual unity of mankind to trace the analogies and unconnected coincidences among nations. Many customs, beliefs, and ideas, present themselves in countries the most remotely apart, as almost identical, as bearing the greatest analogy to one another; yet, on careful examination, they prove with every certainty to be unconnected, and evince decided marks of independent evolution.

Modes of faith, forms, customs, beliefs, rites, ceremonies, some of so marked a character, as to lead one to suppose that they solely and peculiarly belonged to the people amongst whom they are found, find their exact counterparts in other countries with which there could be no possibility of intercommunication. Of this there is but one intelligible solution. From the identity of the human mind, the uniformity in its development, and from the sameness and resemblance of the nature and general constitution of man among all races, it necessarily follows that similar and analogous ideas, beliefs, and coincident customs, will be evolved, under the same circumstances, in regions the most remote from one another. As Payne Knight remarks: "Men, considered collectively, are at all times the same animals, em-

ploying the same organs, and endowed with the same faculties; their passions, prejudices, and conceptions, will, of course, be formed upon the same internal principles, although directed to various ends, and modified in various ways by the variety of external circumstances operating on them."

Human nature is always and everywhere, in the most important points, substantially the same. It will, consequently, be important and interesting to trace the analogies of the same human nature, in observing its workings under its various disguises, in recognising, as it were, the same plant in the different stages of its growth, and in all the varieties resulting from climate and culture, soil and season.

In America, we find frequent analogies to the customs and manners of the East, with which there was not the slightest possibility of communication, in the close resemblance of sacerdotal institutions, and of some religious rites, as those of marriage and the burial of the dead; by the practise of human sacrifice, and even of cannibalism, traces of which are discoverable in the Mongol races; and, lastly, as Prescott remarks, by a conformity of social usages and manners so striking that the description of Montezuma's court may well pass for that of the Grand Khan, as depicted by Mandeville and Marco Polo.

Man being a creature of instincts, which are a part of his common nature in all climes, and are universal, the same superstitions, customs, and beliefs, which are the offspring of these instincts, will crop out in different countries; and it will be found that the great factors of superstition, fear and ignorance, have, in all ages and under all conditions, given rise to ideas nearly similar. The belief in ghosts and the evil eye is universal. The same customs to avert the terrors of ghosts and of the evil eye are had recourse to in countries the most unconnected. The missionaries, Huc and Gabet, were astonished to find an extraordinary resemblance between the rites and ceremonies of the Romish religion and Buddhism.

All these similar or identical errors, spread broadcast over the world, have their source in that great fountain head, the infirmity of human nature itself: these *idola tribus* proceed from principles common to the whole human race.

The learned author of the "Divine Legation of Moses" puts forth a similar view when adverting to the similarity of pagan and Christian superstitions.

Humboldt, also, when remarking an extraordinary analogy between an Egyptian and Mexican festival, observes ("Cordilleras", i, 384): "In every nation on the earth, superstitious ideas assume the same form, at the rise and decline of civilisation; and it is on account of this analogy that it is difficult to distinguish

what has been communicated from country to country, and what man has drawn from an interior source."

I shall now give, in illustration of the above, a few instances of some analogous customs and beliefs among different nations, some so widely apart as to preclude even the slightest probability of any intercommunication or connection; the origin of which can solely be attributed to the innate principles of our common nature.

Sun-Worship.—Sun-worship was as universal as the all-pervading light of the sun itself. The sun, in the eyes of primitive man, was the bountiful bestower of all things, the dispenser of that active heat, which awakens all things to life, the beneficent ruler of the seasons. His vivifying effects were experienced by all nations; consequently, to the sun, in gratitude, man, in all climes, addressed his grateful prayers and thanksgivings for the blessings he enjoyed. His worship is, therefore, found in all regions. There is scarcely a country in the world on which the sun sheds its warming and fecundating rays, which has not offered worship to that luminary. It was worshipped in Egypt under the name of Ra, in India under that of Surya, in Persia under that of Mithras, in Assyria under that of Shamas, in Phœnicia under that of Baal, in Greece under that of Helios, in Peru under that of Inti.

The Evil Eye.—The belief in the evil eye is one of the most widely extended of superstitions; it crops out in the remotest corners of the globe. It is found among the intellectual Greeks and the cultivated Romans of the Augustan age, as among the rudest savages. It takes its origin from that common, but unamiable feeling in human nature, when an invidious glance, or a look of envy, is cast on the happier lot, or on the superior possessions of others. To avert the supposed effects of this glance of envy, recourse is had to the superstitious practice of using some sacred object, or pointed thing, to turn aside the baneful dart of the evil eye.

Many proofs may be adduced of the existence of this belief, and of similar means to avert the effects of the evil eye, not only among the ancient Greeks and Romans, but also throughout Europe, Asia, Africa, and America, at the present day.

Placing Valuables in the Grave.—One of the most remarkable analogous customs is that of placing valuables in the grave with the body of the deceased. This custom prevails among all primitive nations and peoples. It arose from those common, natural, emotional feelings, which are awakened in the breast of every human being, and which make all human nature akin. The same feelings suggested to individuals of the most cultivated nations, and those of the most barbarous, the natural

belief that the departed would wish to have with them in their grave the things which they prized most when living. The custom among the Greeks of placing in tombs vases and other things that were dear to the deceased is thus described by Vitruvius: "Virgo civis Corinthia jam matrem nuptiis, implicita morbo decessit; post sepulturam ejus, *quibus ea rica poculis delectabatur*, nutrix collecta et composita in calatho pertulit ad monumentum et in summo collocavit; et uti ea permanerent diutius sub divo, tegulâ textit."

Lieutenant Oliver tells us that in Madagascar, it is customary, at the interment of any man of note, to deposit large quantities of property in the tomb with the corpse, especially of articles to which the deceased was known to be attached. We might give numberless instances of the same custom being adopted by nations and races all over the globe.

Cutting the Flesh in Grief.—The custom of cutting the flesh as a sign of grief is found among peoples most widely apart: among the Canaanites, the Huns, and the New Zealanders. That this painful manifestation of the deepest grief was indulged in by the Canaanites is evident from the following verse of Leviticus (xix, 28), prohibiting the custom to the Jews, "Ye shall not make any cuttings in your flesh for the dead." Gibbon thus describes the custom among the Huns at the funeral of Attila: "According to their national custom, the barbarians cut off a part of their hair, gashed their faces with unseemly wounds, and bewailed their valiant leader, as he deserved, not with the tears of women, but with the blood of warriors." The New Zealanders also evince their grief for their deceased chiefs by cutting and gashing their flesh with knives of obsidian.

We thus find intense natural feelings giving rise to similar and identical customs among nations so widely apart as to preclude all idea of intercommunication.

I shall bring this paper to a close by giving, as a further illustration, the following passage from Sir Charles Dilke's "Greater Britain", which proves that peoples in the same phase of civilization may present the greatest resemblance in their habits, customs, and actions, yet not have the slightest connection or relationship with one another. "As we drove down to the coast, we talked over the close resemblance of the Maori runanga to the Homeric council; it had struck all. Here, as in the Greek camp, we had the ring of people, into which advanced the lance-bearing or sceptre-wearing chiefs; they alone speaking, and the people backing them only by a hum. 'The block of wood dictates not to the carver, neither the people to their chiefs', is a Maori proverb. The boasting of and bragging of deeds and military exploits, to which modern windbags would only casually

allude, was also thoroughly Homeric. In Hunia, we had our Achilles; the retreat of Hunia to his *wahrè* was that of Achilles to his tent; the cause of the quarrel alone was different, though in both cases it arose out of the division of spoil—in the one case the result of lucky wars; the other of the Pakeha's (the white man) weakness. The Argive and Maori leaders are one in fire, figure, port, and mien; alike, too, in their sulkiness. In Waitere and Aperahama Tipui we had two Nestors; our Ther-sites was Porca, the jester, a half-mad buffoon, continually mimicking the chiefs, or interrupting them, and being by them, or their messengers, as often kicked and cuffed. In the frequency of repetition, the use of proverbs and of simile, the Maories resemble, not Homer's Greeks so much as Homer's self; but the calling together of the people by the heralds, the secret conclave of the chiefs, the feast, the conduct of the assembly—all were the exact repetition of the events recorded in the first and second books of the 'Iliad', as having happened on the Trojan plains."

DISCUSSION.

Mr. W. C. DENDY glanced at the instances of popular illusions cited to prove the universality of intellect, as sun-worship, the spell of the evil eye, etc., and affirmed that they were dependent on a variety of influences, easily explained. He dissented entirely from the broad assertions of the author, and believed they would not meet the approval of the Institute, however prominent may be his anthropological status. The effect of the paper might be to lessen the value of those relics which illustrated the anatomical varieties of races, so important in ethnic physiology. Differing widely from the popular craniologists of the day, he would ask what was the value of the classification of forms, if there were so close an affinity regarding intellect and progress among the multiform beings of the earth. The comparison of the archencephalic Caucasian with the dolichocephalic Australian would dwindle down to absolute inutility, were they not deemed indicative of those developments which form the very pith of encephalology. We might well believe the Oceanidæ, even as a group, would display a close assimilation of moral and intellectual qualities; but, when we compare the cranium of a Cuvier with that of an Oceanic savage, and, above all, the weight and convoluted richness of the encephalon in the higher forms, it were a libel on science thus to associate their mental phenomena. There are, of course, as exceptions to the rule, many instances where the intellectual manifestations seem to falsify these conclusions, regarding intellect, from mere cranial forms. The quality of brain must, in these cases, be taken into account. The weight of the brain of Cuvier was heavier than that of Gauss, the deeper thinker of the two, although the latter was far richer in its convolutions. It behoves the Anthropological Institute, especially, to regard with jealous eye these innova-

tions on the truthful principles of ethnology, and to that effect I have thus firmly expressed my humble opinion.

Mr. COOPER said : Some allusion having been made to the current superstitions respecting the evil eye having also prevailed at one time in Egypt, I rise to observe that the allusion is only apparently borne out by the numerous ocular amulets found in Egyptian tombs. In truth, these charms, consisting of sculptured representation of the right symbolical eye, either singly or in various geometrical multiples (four, nine, fourteen, twenty-eight, etc.), were really as much designed to invoke a blessing as to deprecate or avert an evil. The eye, the symbol of the all-watchful Heserei (Osiris), is found on the oldest monuments of the Hamitic races ; and was not, I believe, connected with any idea of phallic energy till the influence of a later Semitic cultus, derived in the eighteenth dynasty from the Ramesaic kings, and culminated under their corrupt successors, the Ptolemies.

The following gentlemen also took part in the discussion on the foregoing papers and exhibitions : Professor Busk, Mr. C. Charlesworth, Dr. Carter Blake, Dr. Nicholas, Mr. A. L. Lewis, Mr. J. W. Flower, Col. Lane Fox, Rev. George Sinclair, Mr. Wake, and the President.

The following papers by HENRY H. HOWORTH, M.A.I., Esq., were taken as read :

The WESTERLY DRIFTING of NOMADES, from the FIFTH to the NINETEENTH CENTURY.—PART VI. The KIRGHISES, or BOUROUTS, the KAZAKS, KALMUCKS, EUZBEGS, and NOGAYS.

In tracing the pedigree of the Turkish races, we have arrived at their first emigrations across the Volga and the Oxus, the two frontier rivers of the more typical Turkland. We have stripped Persia, Turkey, and Southern Russia, of the Turk element in their populations. We must now cross those rivers, and enter the more proper homeland of the Turks—so held, at least, in popular estimation. Our difficulties, of course, increase very much, and our conclusions are necessarily more tentative, as we journey away from the haunts of civilisation. The country we have to deal with is the stony and sandy steppe, reaching from the Volga to the Desert of Gobi, and from the Sea of Aral and the Caspian to the Ural Mountains and the Steppe of Baraba—a hungry land, a land of robbers and nomades, whose ethnology offers as confusing a subject for investigation as could be desired by the most patient unwinder of puzzles. We shall traverse a small portion of the ground covered by the first part of this paper ; and be able, perhaps, to correct a few errors, for which a wider area of observation has suggested a better answer. Our method, as previously, will consist in gradually unpeeling the various layers of populations, until we arrive at the primitive kernel of the whole.

A great portion of the area which we propose to investigate is occupied by the Khirgises, and is from them known as the Khirghiz Steppes—wastes described picturesquely by Atkinson, and more valuably by Levchine. Like most predatory and disintegrated races, they have no connected history. They can tell of renowned chieftains, of marvellous escapes, of successful raids, of all the more striking incidents in the career of their ancestors, the natural subject matter of ballads and traditions; but of their own origin, etc., they speak as empiricists construct history.

The ethnography of these steppes has been very much confused by a not unnatural mistake. The name Kirghiz is unknown to the tribes to whom it is commonly applied in Europe. They invariably call themselves Kazaks. It is a name indigenous to a race of robbers, now inhabiting the mountains of Kaschgar Khoten, etc., generally known as Bourouts, Eastern Kirghises, Rock, Wild, or Black Kirghises, whose origin and history is different from that of the so-called Kirghises of the Great, Middle, and Little Hordes. When the Cossacks conquered Siberia, they found these real Kirghises living in the Eastern Altai, and afterwards applied the name to the neighbouring tribes of Kazaks, whose language, manners, etc., were sufficiently like theirs to pardon the classification. From the Cossacks, the name has spread into the pages of western writers. In this examination, we must distinguish them. The name Kirghiz, or Bourout, will be applied to the Kirghises proper, while the so-called Kirghises of the three hordes will be referred to as Kazaks.

The confused history of the Bourouts has been collected by Radloff, Levchine and others, and from them I shall take the following epitome. They are now most distinctly a Turkish race; that they were not always so is most certain, and will appear presently. During the supremacy of the Yuen or Mongol dynasty in China, the Opon (Ob or Obi) was the south-western, and the Jousse the north-eastern boundary of the country of the Kirghises, while the Jenissei flowed through their country (Klaproth). When the Cossacks invaded Siberia, at the beginning of the seventeenth century, they were living on the black and white Jousse, on the Abakan, and the neighbourhood of the Sayan Mountains; that is, they still occupied their ancient seats. Hence, they pillaged for a whole century the New Russian colonies, dividing their nominal allegiance between the Russians, the Eastern Mongols, and the Soongars. At length, just at the beginning of the seventeenth century, the Russians, in concert with the Kontaisch of the Soongars, tired of their robberies, drove them out of their old country, and forced them to settle

in the mountainous country between Arizitchdzan and Kashgar, where they are now found, and are under the protection of China, Russia, and the Khans of Kokand. Radloff suggests they have been called Kara Kirghises, or Black Kirghises, from the obstinacy with which they have clung to their old idolatry. Believers still call the unconverted "kara kapir", or black infidels. They are only nominally Mussulmans; shaving the head, performing certain ablutions, and repeating occasionally some Arabic sentence, more as a charm than as attaching any meaning to it. They have neither mosques nor priests among them, and say no prayers. They are almost entirely occupied in rearing cattle and brigandage. Luxury is a misnomer to apply to any of their extravagances. Travellers remark on the monotony that exists among them; the rich being distinguished merely by a somewhat larger yourt, or more embroidered coat. They are very fond of music, and very hospitable and trustworthy to their guests, contrasting favourably with the Kazaks. In war, and to their enemies, they are described by all their neighbours as cruel, vindictive, and untameable.

In their old homes, the Kirghises were bordered on the east by the great plains reaching to the Baikal Sea, now occupied by very broken and disintegrated tribes. It seems to be very well established, that the Yakouts, who now live far to the north-east, on the Lena, who are a Turkish race, isolated entirely from the rest of the Turks, and surrounded by strangers, have only very lately arrived in their present homes. Their traditions all agree in a very recent migration down the Lena, from a country where they formerly lived as brothers of the same kin with the Bourouts. Now these Bourouts cannot be the Bouriards of Lake Baikal, who are Mongols, and not Turks. They were, no doubt, the Bourouts of whom we have just written—*i.e.*, the Kirghises. Their name, we know, agrees with tribal names found among the Turks of the Baraba Steppe, generally called the Barabinski; and many writers, notably Fischer and De Lessep, have affirmed the identity of the Yakouts and the Barabinski. The latter are very nearly related, as they used to be very close neighbours of the Kirghises; and I have no hesitation in making all three—viz., the Bourouts, or Kirghises, the Yakouts, and Barabinski—fragments of an ancient race, which has been dispersed by the arrival of the Russians, or, perhaps, by the far-reaching ambition of the Soongars, a race which, on the Lena and the deserts of Baraba, has preserved for us a picture of what the Siberian, and probably all the Asiatic Turks, were, before they were sophisticated by contact with Mohammedanism. This dispersal I place not much earlier than the end of the sixteenth, or beginning of the seventeenth century. The details upon which these results are founded, will be printed, I hope, elsewhere.

We will now turn to the Kazaks, on whom Levchine has written a most exhaustive work.

All accounts, traditional and native, as well as historical and foreign, agree that the Kazaks are but recent occupants of much of their present area. Everywhere in its western portion, we meet with traces of the previous occupants, the Nogays. In the eastern portion, the broken remains of the Kalmucks are the wrecks of the power whose decay opened a wide path for the aggressions of the Kazaks.

The pressure of the Kazaks has been constantly towards the south and south-west, occupying the deserted camping-grounds of the Nogays, etc. During the earlier part of the seventeenth century, the Sari Sou, which rises in the Ak Tag Mountains, and, after a very broken course, loses itself in the sands of Karakum, was their frontier towards the south-east, separating them from the Kalmucks. The Baschkirs still wandered between the upper waters of the Ural, or Jaick, and the Emba, while the Kalmucks held the country about the mouths of these rivers. The Karakalpacs and Turcomans pastured the deserts of Ust Urt and the shores of the Aral. It was only a short time before the Russian advance into Siberia that the Kazaks had overrun the old Khanate of Tura, before which their northern frontier was bounded by the Tartars of that ancient dependency of Genghiz Khan. So that, at that period, the Kazaks were confined to the central and eastern portions of their present area. Their chief Khan lived at Turkestan, and they plundered their neighbours on all sides. Their origins I shall consider with those of the Euzbegs. Here it will suffice to say, that their history as an independent power commenced with the expulsion of the Euzbegs from the country beyond the Jaxartes by the Soongars.

During the sixteenth century, our notices are very scanty and isolated. We have, in Fischer's "*History of Siberia*", an account of the conquest of Siberia by Kutchum Khan, the son of Mur-taza, and his Kazaks. We have fragmentary notices of Kazak raids upon the Nogays of the Ural; and the early English traders Jenkinson and others mention the Kazaks as inhabiting the steppes. But it is not till the beginning of the seventeenth century we get on stable ground. Abulghazi Khan relates how, in 1630, he took refuge with Ichim, the Kazak khan, who lived at Turkestan. Ichim was succeeded by Djanghir; and he again by Tiavka, looked upon by the Kazaks as their Lycurgus, whose equity and whose strong hand created something like order among the hordes. He was obeyed apparently, like his father and grandfather, by all the Kazaks. Under him, three lesser khans governed the Great, Little, and Middle Hordes. As he grew old, his hand became too weak to restrain his turbulent

subjects ; and Abulkhair and Kaip, two celebrated names in Kazak history, were associated with him. Tiavka died in 1717. Internal quarrels and dissensions immediately arose, which led to attacks from all sides on the part of long-enduring neighbours. In 1723, the Soongars took Turkestan, the residence of Abulkhair, and subjected portions of the Great and Middle Hordes, and scattered the rest of the Kazaks in all directions. In the language of one of their elders, " We fled before the Kalmucks, the Kossacks of Siberia, and of the Jaick and the Baschkirs, like hares before greyhounds." This dispersion was most disastrous in its effects ; multitudes of both the men and their flocks perished. Ill-fortune somewhat restored peace among them ; they agreed to accept Abulkhair as leader, and under him returned to their old homes, and a white horse was sacrificed as a gage of future peace. In 1732, Abulkhair, and a number of his subjects, took the oath of allegiance to Russia, which agreed, shortly afterwards, to confirm the dignity of khan in the family of Abulkhair. In 1735, at the request of the Kazak khan, the fortress of Orenburg was commenced ; and the next year, to check the turbulence of both Kazaks and Baschkirs, and to form a better frontier, the line of Orenburg forts was constructed. The Kazaks were never very obedient to their khans, and this intercourse and subservience of Abulkhair to Russia weakened his hands very much. The khans of the Middle Horde, over whom he claimed suzerainty, became very independent, and attracted many recruits. In his latter days, Abulkhair himself gradually got estranged from Russia ; he was killed by Barak, one of the khans of the Middle Horde, 1748.

Meanwhile, the Chinese overthrew and destroyed the power of the Soongars : this was in 1756 ; and their vast country, almost reduced to a desert, was annexed to China. The Kazaks of the Middle Horde, who had assisted the Chinese, were allowed to drift over this area. They had desperate struggles with the Bourouts ; but became very powerful under their Khan Ablai, although under the nominal banner of the Chinese.

When the Soongars, or Eastern Kalmucks, were overthrown, ten thousand of them joined their countrymen on the Volga ; these new comers, accustomed to freedom, incited their countrymen against the Russians, and induced their celebrated flight across the desert, when fifty thousand families attempted to run the gauntlet of the Kirghiz Steppes, and were fearfully decimated by the three hordes in succession, and lastly by the Bourouts.

Ablai Khan died in 1781, and the Middle Horde was immediately split into fragments.

Catherine the Second tried to reclaim the Kazaks by building

mosques, schools, and caravanserai, and appointing tribunals to settle their quarrels and legislate for them, but with very partial success. The measures of her minister Injelstrom, to break up the power of the greater khans, were at last successful. The Little Horde was dispersed: a portion joined the Middle, another went over to the Euzbeks, a third to the Turcomans, while a fourth division of ten thousand families crossed the Volga, and settled in the land left vacant by the Kalmucks, where they have since remained. The land of the Middle Horde has been gradually annexed to Russia. It has been found, as is very natural, that neither treaty nor promise will bind the desert robbers. Plunder they will; perhaps, plunder they must is the more rational expression. The land is too hungry, life too precarious, and property too easily stolen, for much order to reign there; and it was inevitable, and surely not very disheartening to philosophers, that Russia should continue her advance till she enclosed with her iron discipline the whole of the desert.

The history of the Great Horde was, with great propriety, separated from that of the other Kazaks by Levchine. Separated by a long distance from the Russians, and situated close to the Soongars, they naturally became more or less subject to the latter. At length, leaving the neighbourhood of the Lake Balkash, they retired towards the river Sara Sou, and thence pillaged Taschkend and Turkestan, which, in 1739, were subject to them. On the dispersion of the Soongars by the Chinese in 1756, the Great Horde drifted over their deserted country, and recognised the suzerainty of China. The Torgouts, in their flight from Russia, were cruelly assailed by one portion of the Kazaks of the Great Horde. Another portion of the Horde had fixed its camp in the neighbourhood of Taschkend, and pillaged that town and the surrounding country. In 1760, a large body of Karakalpacs, driven from the mouths of the Jaxartes by the Little Horde, joined them. In 1798, they were subjected by a rigorous Khan of Taschkend, who attacked the plunderers, and exposed pyramids of their heads to frighten the rest. He reduced them to order. A portion of them escaped to the Irtysch, and joined the Middle Horde; others dispersed in various directions. When, in 1814, the Khan of Khokand took Taschkend, these Kazaks changed masters; but many of them, who had settled down, left their fields and gardens, and escaped towards China. The Great Horde is now broken up: a portion still obeys the Khan of Khokand, a second obeys China, a third is under the dominion of Russia.

Having epitomised the tedious history of the Kazaks, from the time of their forming a distinct nationality, we must now turn to the Soongars, or Kalmucks, whose arrival led to this result.

The origin of the Kalmucks is an obscure question. Pallas is probably right when he says that the Mongols were divided into two branches before the days of Zenghiz. These were most probably the Keraites and their dependent tribes, and the Mongols proper. His strong arm kept them united for a while, and probably the unity lasted during the continuance of the dynasty of the Yuen in China. When this was destroyed, the old division arose, and Kalmucks in the west and Khalkas in the east denoted the rival parties. Abel Remusat and others have shown good reasons for identifying the Kalmucks with the Keraites, the Ouirates, and their other dependent tribes. I believe this position to be well founded; and, if so, we must place their western limit at that date at the country of the Naimans. When the power of the Naimans was destroyed, and they were scattered in the Kirghiz and Nogay deserts, as we shall show further on, the ancestors of the Kalmucks drifted westwards, and occupied the abandoned country. Here they were situated, apparently, at the fall of the Yuen dynasty, and hence, according to the relation of Emperor Kienlung (see "*Mémoires sur la Chine*"), a body of them advanced on the country about Kokonoor, or Thibet, where their descendants still remain. They were divided into three main divisions; namely, the Soongars (with whom were joined the Derbetes), the Torgouts, and Koschotes. In the beginning of the sixteenth century, the Soongar princes subdued or scattered the other divisions. The fugitives to Thibet were probably a portion; another portion, after a long struggle with the Soongar princes, left the country, and found its way, as we have shown in the first paper of this series, in the year 1630, to the banks of the Volga. After these events, the Eastern Kalmucks are often referred to simply as the Soongars. The growth of a central power among the Soongars, by the suppression of the independence of many tribes, coincides with the decay of the power of the successors of Timour in Turkestan, and the break-up of the old Khanate of Kaptchak. This led to two migrations. The Kalmucks pressed across the Irtysh into Eastern Kaptchak, the Desht Jitteh of the Arabs, and dispossessed the tribes of the latter. Some of these joined the Kazaks to the north; the greater portion, under the name of Euzbeks, crossed the Jaxartes, and drove thence Baber and his so-called Mongols—*i.e.*, the descendants of Timour. The Soongars rapidly acquired a vast power.

The Emperor Kanghi, in the "*Mémoires*" already quoted, tells us the first khan of the Eleuths who came to do homage was Kousihan. He was well received by the Emperor Chuntche; was treated as a king, and presented with a special seal and the title "*souré*", meaning *eminent*. One of his descendants,

Tchetchem ombon, we are told, showed great skill in clearing his country of plunderers, and received from the Chinese the titles of Patour and Tousietou. Another, called Hotohotchin, with the title of Patour Taidji, was the Kontaisch of the Kalmucks, with whom the Russians came in contact when they occupied Siberia. He was the father of the celebrated Galdan, or Kaldan. Educated as a lama, it was on the murder of his brother Sengue, who had succeeded his father, that Galdan received permission from the Grand Lama to revenge his death, and declare himself Taidji. On very slight pretexts, he attacked the other independent Taidjis; and, having united the three main hordes of the Eleuths, was practically the founder of the empire of the Soongars. Fugitives from his ambition sought assistance from China, which sent a large army against him, and defeated him: when hard pressed he poisoned himself. This was in 1697.

Tse ouang Reptan was originally a small chieftain under the King of the Eleuths. With him, Septen Patchour, the son of Galdan, took refuge, taking with him his father's body. Reptan delivered him up to the Chinese, and with him the head of Galdan. This was only the beginning of his treachery. On the retreat of the Chinese, he ravaged all the borderland, including those parts of Mongolia subject to China. His aim seemed to be to revive the old empires of Zenghiz and Timour. By fraud or force, he subdued nearly all the surrounding tribes, and beat the Chinese armies. He was apparently succeeded by Ta-tse-reng, a *protégé* of the Chinese court. A period of confusion followed, in which many pretenders arose. At length, more successful than the rest, Amoursana raised the royal standard on the banks of the Ili. Several of the chieftains, fearful of impending troubles, fled into China, and were settled by the Emperor in the country of the Khalkas. Amoursana now threw himself at the feet of the Emperor, who gave him a high title. The Emperor Khanghi says, emphatically, the perfidious Amoursana, like a wolf which has once tasted flesh, could not be quiet. The fact is, the Chinese *surveillance* invariably becomes unbearable to the dependent tribes. The ambiguous summonses to Peking to receive fresh honours, literally mean prostration at the foot of the throne. Tired of the restraint, Amoursana took up arms, and overran all the line of forts built by the Chinese to protect their frontier. The Chinese sent two large armies, which were both unsuccessful. In 1752, two new armies set out, broke up the confederation of the Mongol tribes, and we are told Amoursana fled, to return no more, to the vast solitudes of Locha (the Chinese name for the Russian possessions). The Eleuths were destroyed or dispersed, and the disintegrated remnants were administered by the Chinese. They still

remain about Lake Balkash and the adjoining mountains, and are generally known as Eastern Kalmucks.

Before the Kalmucks appeared on the Volga, Turkish tribes, more or less pure, occupied all the country from the Volga to the mountains east of Lake Balkash, a tract which formed the ancient Khanate of Kiptchak, or the Golden Horde. At this period, this tract was divided into two sections: the western portion, including all the valleys of the Jaick, the Djemba, etc., formed the so-called Great Nogaia, and was the camping-ground of the Nogays; the eastern, the Desht Jitteh, was occupied by the Kazaks and the Euzbegs, apparently subject to a common khan, who probably lived at the town of Turkestan. We must now examine the origines of the Euzbegs and the Nogays. These were but streams of the great Turkish flood, which swept over Asia with Zenghiz Khan.

At the accession of Zenghiz, the country west of the Jaick or Ural was occupied by the Kaptchaks or Comans, of whom we have already written. East of the Jaick, the steppes of the Kirghises, as far as the frontiers of Turkestan proper, were the camping ground of the Turkish horde, known as Cancalis or Canglis. Both Kaptchaks and Cancalis were subject to Mohammed, the Sultan of Kharezm, known as the Kharezm Schah. He ruled over a vast empire, formed of the *débris* of that of the Seljouks, including nearly all Persia, bounded on the south by the Indian Ocean; on the east by the Indus and the mountains of Budakschan, etc.; and on the north-east by the further frontier of Transoxiana. Here commenced another great empire, about which you have lately heard from Dr. Oppert; viz., that of Kara Kathay, occupying very nearly the centre of Asia, and including what is generally known to geographers as Turkestan; that is, it included the towns of Yarkand, Kaschgar, Euzkend, Caialik, Amalik, and Bishbalik, and was the cord which tied together the various Turkish tribes whose independent centres were those towns. All these obeyed the supreme Khan, known as the Khan of Kara Kathay. These two Khans, he of Khorazm and he of Kara Kathay, ruled over by far the most important powers of Asia at the accession of Zenghiz. North-east of Kara Kathay and east of the Great Altai Mountains, was the small independent Khanate of the Naymans. Here we must linger awhile. The Naymans, by most authors, have been classed as Mongols. I believe they were nothing of the kind, and that this mistake has led to some very false reasoning.

According to the Arabian historian, Raschid, the country of the Naymans comprehended in its full extent the Great Altai and the Caracorum mountains, as well as the mountains of Eloug Serass, lake Ardisch (Saissan), the banks of the river Ardisch

(the Upper Irtysh), and the mountains between this river and the country of the Kirghises. It was bounded on the north by the Kirghises; on the east, by the Keraites; on the south-west, by Ouigouria; and on the west, by the Cancalis. One tribe of the forty-nine banners of the Mongols is, unquestionably, called Naiman; but, as assuredly two Nogay (Turkish tribes) and a Kirghiz tribe also bear the same name, so that the balance of evidence, so far, is in favour of the Turks. The first king of the Naymans mentioned by D'Ohsson is Inandje, which, he says, is a *Turkish* word, meaning believer; the second is Belga Boucou Khan. Boucou Khan, he says, is the name of a celebrated ancient king among the *Ouigours* (Turks). He says, again, the greater part of the sovereigns of the Naymans joined to their title of Khan the epithet Goutschlouc, which means in Turkish powerful, or Bouyourouc, which means commanding; a general of the Naymans was called Gueugussu, which has also a Turkish etymology. These names are quite sufficient to prove that the Naymans were no Mongols, but Turks,—the most easterly of the Turks; (for we have already shewn their neighbours, the Keraites, to have been Kalmucks)—the most like the Mongols, and therefore not unlike the modern Naymans; that is, the Nogays; most probably they were the Kimakes of the Arabs.

The Nayman country is too remote from the centres of civilisation to be often noticed by historians, unless it happen, for the time being, to have some exceptional connection with them. We are not surprised, therefore, to meet with the *name* Nayman for the first time in the historians of Genghiz. It is a Mongol word, and means merely six (see D'Ohsson). We may trace the *people* somewhat further, perhaps. Thus the country occupied by the Naymans in the latter half of the twelfth century was the home of the Ouigours, or Hoeitché, in the ninth, when the latter were well known to the Chinese. The same country was at both dates bordered on the north by the Kirghises. When the Ouigour power was destroyed, in 847, by the Chinese, it was chiefly with the assistance of the Kirghises, who overran their country in all directions. Now Nayman is still the chief of the tribes of the Middle Horde of the Kirghiz-Kazaks; when the King of the Naymans was defeated he took refuge among the Kirghises (D'Ohsson). We shall not be unreasonable if we conclude that the Naymans are in fact the descendants of these Kirghises, and of the Hoeitché, or Ouigours, a mixed race, whose power is perhaps to be dated from the year 847. The following facts are chiefly from D'Ohsson, vol. i. Their first appearance is when Gour Khan, uncle of Thogrul, commonly known as Oang Khan, the chief of the Keraites (who, until lately, has been

deemed the Prester John; (*vide* Dr. Oppert Kitai, and Kara Kitai), took refuge with Inandje, chief of the Naymans; the latter vanquished Thogrul, who took refuge with Yissougi, the father of Genghiz. He, in his turn, drove out Gour Khan, made him take refuge in Tangout, and restored Oang Khan. In 1199 Zenghiz, in alliance with Oang Khan, marched against the Naymans. Inandje Belga Boucou Khan, such was his full name, was then dead. His two sons, Tai Bouca and Bouyourouc, quarrelled; the former kept the paternal home and the plains; the latter retired with such tribes as clung to him to the mountainous country of Kiziltasch, near the Altai. Most of the sovereigns of the Naymans joined to their title of Khan that of Goutschlouc, but Tai Bouca bore the Chinese title of Taivang, or Great King; pronounced Tayang by the Mongols.

Zenghiz and Oang Khan, taking advantage of the quarrel, severely defeated Bouyourouc, who took refuge in the country of the Kem Kemdjoutes, a dependency of the Kirghises. The invaders, in turn, quarrelled; and Saira, a general of Bouyourouc, defeated Oang Khan, and overran the Keraite country. The Naymans were only driven thence by the superior address of Zenghiz.

In 1202 Bouyourouc Khan, besides his own people, headed a confederacy of the tribes *Dourban*, Tatar, Kataguin, Saldjout, and *Ouirat*, all jealous of the rising power of Zenghiz; they attacked the latter in alliance with Oang Khan, and drove them among the mountains of Caraoun Tchidoun, on the frontiers of China, but there most of them were destroyed by the cold, etc.

In 1203 the long jealousy between Zenghiz and Oang Khan ended in the complete defeat of the latter, who escaped to the land of his old enemies, the Naymans. Here he was murdered, much to the sorrow of the Khan, who, to shew his respect *more* *Nayman*, had his skull encased in silver, and used it as a drinking bowl on great occasions of ceremony.

In 1204 Zenghiz marched against Tayang, Khan of the Naymans, with whom were Toucta, King of the Merkites, Alin Taischi, chief of a Keraite tribe, the *Ouirates*, Djadjerats, Dourbans, Tatars, *Katakins*, and Saldjouts. The Naymans were beaten; their chief was badly wounded; the chiefs of the nation, rather than survive the defeat, rushed on the victors, and died sword in hand; the rest of the Naymans were dispersed in all directions or else reduced to slavery.

Goutschlouc, son of Tayang, fled to his uncle Bouyourouc Khan; and Toucta, chief of the Merkites, sought the same refuge, among the mountains of Ouloug Tag, the western spurs of the Little Altai, and south of lake Balcash. Here they were defeated by Zenghiz in 1206, and Bouyourouc killed. Goutschlouc and Toucta

fled to the country watered by the Irtysch ; *i. e.*, to the north. In 1207 the Kirghises and Kem Kemdjoutes submitted to Zenghiz. In 1208 Zenghiz marched once more against Goutschlouc and Toucta ; he defeated them on the Djem (*i. e.*, the Jenissei) ; the latter was killed ; his brothers and sons escaped to the country of the Ouigours. Goutschlouc fled to the Grand Khan of Turkestan or Kara Kathay.

In 1211 the Khan of the Ouigours, Arslan Khan chief of the Carlouks and Prince of Cayalik, and Ozar, Prince of Almalik, broke their allegiance to the Khan of Kara Kathay, and submitted to Zenghiz ; two of them, and the son and successor of the third, married relations of Zenghiz. Goutschlouc Khan had married the daughter of the Gour Khan of Kara Kathay. The weak sovereign of that once vast empire had lost the allegiance of his three greatest vassals, the King of the Ouigours, the Prince of Transoxiana, and the Sultan of Kharezmi. Koutchlouc, with true Tartar fidelity, thought it a good opportunity for retrieving his fortune. He first set out to collect the *débris* of his nation, now scattered in the countries of Imil, Cayalic, and Bisch Balig. He was also joined by the Prince of the Merkites. He entered into a league with the renowned Mohammed of Khorazm, to overturn the empire of Kara Kathay, and then proceeded to Euskend, where the treasury of Gour Khan was situated. Goutschlouc was soon after severely defeated ; but, in 1211 or 1212, he surprised the great Khan and made him prisoner. Master of his person, he left him the title of sovereign, which he bore till his death, two years afterwards. Goutschlouc attacked and killed the Khans of Almalik and Caschgar, ravaged their countries, and then conquered Khotan. He tried to force the inhabitants to abjure Mohamedanism. He summoned the Cadhis to discuss the question with him ; their chief Imam defended his faith with some warmth ; the Khan, in anger, abused Mahomet ; whereupon the former cursed him. "May the earth cover thy false tongue," he said. The Imam was therefore crucified, and a rapid persecution of Mahometans commenced. In 1218 Genghiz appeared on the frontiers of the empire ; Goutschlouc was driven into Badakshan, and there beheaded ; and the empire of Kara Kathay was swallowed up in the vast conquests of the Mongols. This conquest formed afterwards the chief recruiting ground of the Mongols. Its various tribes of Ouigours, Carlouks, etc., were the best soldiers in the Mongol armies. It has long been known that the very great majority of their troops were Turks and not Mongols. When Zenghiz attacked the Khorazm Schah, the Cancalis claimed to be very near relatives of the invaders. The same relationship was claimed by the Kiptchaks on the invasion of their territory by the Mongols ; both of these were well known Turkish tribes.

On the death of Zenghiz he divided his empire among his sons, making one of them paramount. The heritage of Djoutchi, the eldest, was situated north of the sea of Aral, extending westwards as far as the Bulgarians; or, in the more graphic words of an Arab author, "To the furthest spot touched by the hoofs of a Tartar horse". These vast steppes were the home of the Kiptchaks, the Cancalis, and of the *débris* of the various tribes driven westward by the Mongols, the Naymans, Merkites, Kataguins, Carlouks, etc. The small proportion of Mongols may be judged from the fact, that each of the four sons of Zenghiz had only a corps of four thousand Mongols assigned to him, the rest of his force being Turks.

In 1235 it was decided at the great assembly of the Mongols to send an army to conquer the country west of the Volga. This army was led by Batou, son of Djoutchi Khan. It first subjected the great Bulgarians on the Volga. In 1237 it attacked the Kiptchaks or Comans; one portion of these emigrated, a second was destroyed, a third submitted (see D'Ohsson, "*Histoire des Mongols*", ii, 112). The Mongols then attacked the Bourtasses and Mokschas or Mordouines, Finnic tribes of east central Russia, the Circassians, and a people called by Raschid, Vézofiniah. Having subdued all the countries north of the Caucasus, the Mongols overran all Russia, except Novgorod; and, returning home again, once more defeated the Kiptchaks and the Tchermishes. During the next few years they carried their arms into the heart of Europe, ravaging Bohemia and Hungary and most effectually subjecting the Russian princes, who for three centuries remained their humble dependents. The story is told in detail by D'Ohsson.

On their return they fixed their capital at Serai. The empire which they founded and which was handed down to the successors of Batou is known as that of the Golden Horde.

On his return to Serai, Batou commissioned his brother Tarbougai to conquer for himself an appanage in Siberia. This conquest was the foundation of the Khanate of Tura or Siberia, which lasted down to the days of the Russian advance. We, perhaps, meet with an effect of this invasion in the pages of Torfæus, iv, 303, when he relates that, during the reign of Hakon II, 1217-1263, there arrived in Norway a great number of Permiens who fled from the cruelty of the Tartars.

Mangou Timour, Khan of the Golden Horde, died in 1280, and was succeeded by Tonda Mangou, who was deposed for imbecility about 1285, and was succeeded by four of his relatives as co-regents, of whom Toulou Bouca seems to have been the chief. This branch of the family were descended from Djoutchi, son of Zenghiz. At this time other cadets of the same descent had acquired

appanages under their more illustrious relatives. Among these was the renowned Noughia or Nogai, son of Tatar, son of Boucal, son of *Djoutchi*, now an old man, crafty and very powerful. D'Ohsson tells us he held a vast appanage north of the Black Sea, and including the Alans, Circassians, Russians, Poles, Vlakhes, and Bulgarians, as his dependents. In 1259 he made an invasion of Poland, in conjunction with Toula Bouca. In 1265 he married Euphrosyne, natural daughter of the Emperor Michael Palæologus.

He was now ordered by Toula Bouca to join in an expedition to the country of Kerk (Circassia? or the country of the Kirghiz?), with his *Toumans*. The two armies pillaged the country. Overtaken by severe weather, Nogai withdrew his army into winter quarters. Toula Bouca, more venturesome, or perhaps unlucky, was overtaken by cold and famine, and his army suffered severely. Taking umbrage at Nogai, he summoned him before him. The old warrior came, laid an ambuscade for his master, killed him, and placed his brother Toucta on the throne. He was not long in quarrelling with the new Khan, who, irritated at some insolent conduct, sent him a spade, an arrow, and a piece of earth, which guerdon was thus explained by his councillors to Nogai: The spade means, that if you bury yourself in the bowels of the earth, I will drag you out; the arrow, if you escape to the heavens, I will make you come down again; and the piece of earth, choose a battle-field where we may fight. Nogai's answer was sharp: "Tell thy master that our horses are thirsty, and we intend to water them in the Don." The river Don passed by Serai, the capital of the Golden Horde. The two armies met in 1267 at Yacssi, and Nogai mustered twenty thousand horsemen. Toucta was severely beaten. In a second battle Nogai was deserted by his sons and others (Novairi); he was then an old man; his long eye-lashes covered his eyes. In this battle he was killed. His name must have been famous indeed, and was adopted by those over whom he ruled. Their descendants are still known as the Nogai Tartars. His sons succeeded to the government of the Hordes, but did not remain long united, and Toucta was enabled to occupy his territory and to give it as an appanage to one of his brothers. The whole story is told in great detail in the notes to the fourth volume of D'Ohsson's history of the Mongols, from Novairi, etc.

The strange commentary suggested by the fact of this double Khanate, the *imperium in imperio*, possessed by Nogai, has not been properly explained by the writers on the subject. The explanation may be found, I think, if we examine those tribes who still call themselves Nogai, and who have always been independent, both of the great Khans of the Golden Horde and the smaller Khans of Krym, Astrakhan, and Casan, who succeeded

to their power. The Golden Horde was really the army of Batou Khan, the great Mongol invader of the West. Pallas, Dr. Clarke, and other writers, all distinguish very sharply the Nogais from the other Tatars of Krym, etc. Their *physique* and faces are much more like those of the Mongols, and they also approach them in other respects. Now, the Nogai traditions collected by De Hell point to their having come into the West after the days of Zenghiz Khan. Their most distinguished tribes on the other side of the Volga were formerly the Naymans and the Mankats, (? the same as Merkites) the most eastern and the most Mongolised, if I may use the word, of the Turks. It would appear as if the followers of Nogai consisted chiefly of the *novi homines*, together with all the less settled and more predatory tribes, while the Khans of Serai were dependent on the older inhabitants, the Kiptchaks, the Western Cancalis, etc., who were acquainted with towns and more amenable to discipline.

On the death of Nogai, the tribes who were proud to be known by his name, refused, or were too weak to be ruled by his descendants, and seem to have been conquered by the Khans of Serai. This conquest was, however, very partial. The strong hand of such leaders as Bereke and Euzbeg managed easily to control the whole Khanate. On their deaths we find confusion, and especially was it so when the line of Batou Khan was extinguished. In the days of Timour, the Golden Horde was divided and broken up, and the Nogai tribes constituted themselves once more a separate and distinct horde. When the Bashkirs were conquered in the sixteenth century, the Nogai Khan still ruled over a vast extent of country: a portion of the Bashkirs were subject to him. The western writers now speak of two Nogais, Great and Little Nogaia; the former on the east, the latter on the west of the Volga.

Great Nogaia, no doubt, consisted of a great portion of the western so-called Kirghiz Steppe; on the emigration of the Euzbeks, some remnants of the old Golden Horde who were still nomads, no doubt coalesced with the Nogais, as others did with the Kazaks. These Nogais were gradually pushed out or assimilated by the Kirghises. The Karakalpacs, who live about the eastern shores of the Aral, and who consist of Mankats, Kataguns, etc. (Nogai tribal names), I believe to be remains of them; others were pushed forward by the Kalmucks in the seventeenth century, and they were transplanted by Peter the Great.

In the province of Oufa a road is still called Nogaiskaia. Near the Irtysh is a steppe called the Noghaiskaia Steppe, while the Bashkir country is filled with similar traces. The greater portion of the Nogais crossed the Volga about the middle of the sixteenth century, when the Khanates of Kazan and Astrakhan

were broken up by Ivan the Terrible, and settled in the Kuban and north of the Euxine. But even in the middle of the seventeenth century they were the dominant race north of the Caspian and the Aral (see Levchine, "History of the Kirghiz Kazaks.")

Let us now turn to the Euzbegs. The successor of Toucta on the throne of the Golden Horde was his nephew Euzbek, son of Togrouldje and grandson of Mangou Timour. He came to the throne in 1312. We are told the military chiefs were inclined to support the sons of Toucta against *him* because he was a Mus-sulman and insisted on converting them. They always replied to his overtures: "Content thyself with our obedience. What matters our religion to thee? Why should we abandon the religion of Zenghiz for that of the *Arabs*?" He escaped a plot they formed to take his life; returned with his troops; killed the sons of Touctai, with a hundred and twenty other princes of the blood; and occupied the throne. In 1314 Euzbek sent an embassy to the court of Egypt, which is described by Novairi. It took splendid presents, and a letter in which he congratulated Nassir on the fact that Mahomedanism had spread as far as China. He told him that in his dominions there were no others than Mahomedans; that on his advent to the throne he left to the northern nations the alternative of Mahomedanism or war; that he had vanquished those who would not be converted. Those who did not perish in these campaigns he made slaves of. Many of these slaves he sent to the Sultan, who, in return, sent ambassadors with presents to Euzbek (D'Ohsen, iv, 574).

These boasts were by no means vain. The Khan of Kipchak was then one of the mightiest sovereigns of Asia, ruling from the frontiers of Lithuania to those of China. Khorazm, *i. e.*, the modern Khanate of Khiva, was one of his provinces. In 1315 it was sacked by Baba, a prince of the house of Zenghiz, who was dependent on Ouldjaitou, the Khan of Persia. Euzbek sent an ambassador to the Persian Khan, who bearded that potentate with the menace that only a strong power could make. "If Baba has done this by thine orders," he said, "we counsel thee not to winter in Arran; for we shall enter that province with an army as numerous as the sand of the desert." The Persian disavowed the act, and appeased Euzbek by ordering the culprit Baba to be executed in the presence of the ambassador (D'Ohsen).

In 1313 a sister of Uzbek Khan was married to Yuri, Prince of Moscow: this led to the elevation of the latter to the throne of the Grand Principality in 1320, and eventually to Moscow, becoming the first and most important of the Russian principalities and the settled seat of the Grand Dukedom. This was not the only marriage which brought influence to the Great Khan. About the same period the Sultan of Egypt sent him an em-

bassy, praying a wife of the family of Zinghiz Khan. D'Ohsson has told the story of the embassy, and the curious bargains that were made, very picturesquely (see "Hist. des Mongols," iv, 652).

Euzbeg Khan died in 1342. To him the consolidation of the empire of Kaptchak, the great apostle of Islam in the steppes of Central Asia, the Euzbegs of Khiva and Bokharah trace the origin of their nationality, as we are told by Abulgazi; himself a Prince of the Euzbegs. Following the custom of Turkish tribes they adopted the name of their most renowned chief: thus imitating the Nogays and the Kaptchaks, the Seljuks and the Ottomans. The Euzbegs, then, are neither more nor less than the tribes which formed the Khanate of Kaptchak; that is, the Golden Horde, those, that is, which formed its eastern half and were not settled in the various towns of the three lesser Khanates of Cazan, Astrakhan, and Krym, and did not join the confederacy of the Nogays. They remained necessarily nomads from their situation. Khiva is their stronghold, where they affirm their purest blood is to be found. As we have seen, Khiva was a mere dependency of their great hero, and therefore overrun by them at an early date.

They are divided, according to Vambéry, into thirty principal Taife or tribes. Among these tribes are very many, such as the Kungrat, Kaptchak, Khitai, Nayman, Kulan, Taz, Uygur, Oshur, Kandjegaly, Djelair, Kanli, Karakazak, etc., which are identical in their names with the tribes of the Kirghiz Kazaks.

It is also a curious fact, that when the Euzbegs are at a loss for a Khan, either from failure of the royal stock among them or otherwise, they have recourse to the Kazaks. These facts go strongly to prove that Euzbegs (*i.e.*, *Uz-begs*) and Kazaks (*i.e.*, *Kaz-* or *Gaz-ak*) are branches of one people, torn asunder only at the irruption of the Kalmucks, and that before that they were the common subjects of Euzbeg Khan and his successors.

We have now followed the migrations of the Turks in *Turan* since the foundation of the Golden Horde. In the next paper we shall shew how and when the vast steppes, bounded by the Volga and the Altai mountains, the Oxus and steppes of Baraba, were first occupied by the Turks, and trace their course down to the days of Zenghiz.

PART VII.—*The THUKIUE or TURKS PROPER, and the HOETICHE or UZES.*

It is the practice among the Turkish hordes—a practice of which several examples have occurred in the present series of papers—to name a horde or congery of clans from that clan or tribe to which the ruling family belongs, and which is for the time predominant. Thus we, at one period, hear of Gusses, at

another of Kaptchaks, at another of Seljuks, of Uzbeqs, of Ottomans, meaning, very frequently, the same tribes, whose generic name alone has changed with the decay of one predominant clan and the growth of another. The name Turk, by which the whole race has been so long distinguished, had a similar origin. It was the clan name of one tribe of Turks; and, being the first tribe of the race which came in contact with western nations, has given in their annals a genus name to the whole race. The Chinese, who have known the race much longer, still use the word Turk (Thukiu, as their orthography makes it), as meaning only a particular section of Turks. With them it has only a limited application and an *historic* interest: the Kaotche or Cancalis, and the Hoeitche or Uzes, are much more important names. To them, however, we must turn for an account of the origins of the Turks. They give several traditional accounts, out of which we must choose the most probable. This makes them descend from a fragment of the Hiong-Nu, so celebrated in early Chinese history, whom we know to have been Turks from the many words of their language we have remaining, and who were very rashly identified with the Huns by De Guignes. This fragment, which bore the family name of Asena or Zena, was settled about Ping-leang-fou, a town of Chensi. Driven westward by the Goei Tartars, they took refuge in the Altai mountains, and submitted to the Geougen or Avars. One of these mountains, from its likeness to the shape of a helmet, was called Turk by the people of the country. Here they settled, and hence derived their name. They were employed by the Geougen as iron-founders, an art in which they excelled.

They first became prominent about 545, when Toumen, their Khan, began to subdue several petty tribes. In 551 he defeated the Kaotche Turks who had rebelled against the Geougen, and in return demanded in marriage the daughter of his suzerain. On this being refused, he applied to the Chinese emperor, who, either more politic or less fastidious, gave him a princess of the royal blood. Toumen now rebelled against the Geougen, defeated their army, and took the title of Khan. He styled himself Il Khan, gave his wife the title of Kha-toun, and all his brothers and sons that of Te-le. He created a hierarchy of functionaries, and fixed his court at Tou-kiu, near the sources of the Irtych. His throne, placed under a tent, always faced the east, and before the principal entrance hung a curtain, in the border of which was a wolf's head in gold; he died in 553. His subjects worshipped the elements and sacrificed to them camels, oxen, horses, and sheep, and their priests pretended to the gift of prophecy.

Toumen was succeeded by his son, and he in the course of a

year by *his* son Mogan Khan; described by the Chinese as a big man with sharp eyes and a red face. At the beginning of his reign he defeated the Geougen; these last could resist no longer, and took refuge with the Chinese emperor, who received them well (*vide* the paper on the Avares), and then marched against the Turks, whom he forced to pay tribute. Limited on the east by the power of the Chinese, the ambition of the Turks found an outlet in the west and south; and, we are told that, having broken to pieces the power of the Geougen or Avares, they advanced against the Getes—who inhabited Mavera-ul-nehr, the great steppe (known as the Desht Jittah even in the days of Timour, and all the rugged country of Kaschgar, etc.—the precursors of the Turks in the very focus of the Turkland of our day. Before the advent of the new invaders bodies of Kaotche and other tribes of the Turkish race had no doubt taken refuge in this area. De Guignes mentions them. But these were only stray fugitives, seeking hospitality. The Thu-kiu were the first Turks to assert themselves here as masters. The power they succeeded to was that of the Getes.

The conquest of the Avares and the Getes brought the Turks into contact with Persia, and they made overtures for a traffic in silk, for which they were favourably situated, between Persia and China. The negotiation was carried on by means of the Getes or Ephthalites, who, fearful of being ground to pieces between two strong powers such as Persia and the Turks, caused the negotiations to fail. They persuaded the Turks to turn their eyes further west and to send an embassy to Byzantium. This embassy arrived in 569. It reported that Dizabul was then their Khan (probably the Ti-teou-pou-li of the Chinese accounts); that their nation was divided into four divisions; that they had vanquished the Ephthalites and subdued the Avares, except a body of twenty thousand, which had fled into the west; they also related what a number of other peoples they had conquered, and ended by begging the Romans to make a treaty with them. Justin sent as his ambassador in reply Zemarchus, who was very well treated by the Turkish Khan. He was presented, *inter alia*, with a Kerkis slave. Kaschgar, Khoten, Taras and the greater part of Little Bokharah were at this time subject to the Turks. Zemarchus returned home by the northern shores of the Caspian. On crossing the Volga he entered the land of the Ougres: they were subject to the Grand Khan of the Turks, and prove how far his arms had reached. The Romans employed their new allies in their struggles with the Persians.

About 581, a fresh embassy from the Emperor Tiberius the Second arrived in Tartary. It met with a Turkish chieftain, called Tourxanth by Justin, probably a subordinate commander:

he scornfully reproached the Romans with their double dealing, with having offered an asylum to the Avares, fugitives and deserters from Turkish authority, and threatened them with the vengeance of the Turks. For fifty years, the Turks in the east were now employed in various intrigues and struggles with China, which never ceased to sow discord among its barbarous neighbours, as the readiest method of weakening them. The tedious struggle is told at length by De Guignes ("Histoire des Huns", vol. i, part 2). He tells us that, from an early date, the Turkish dominion was found to be too extended to be easily governed from the Altai Mountains; and that, among the subordinate rulers, he who governed the western portion of the empire was the most important, and it was with him the Romans had intercourse. About 585, this governor, who was then called Apo Khan, the Bo Khan of the Byzantines, became independent, and fixed his residence on the river Ili. His empire extended from the Black Sea (where the city of Bosphorus was in his possession) to the Irtysch, and was bounded on the south by the country of Kaschgar.

About 609, the Chinese emperor made a journey into the west to visit his dependents there, and received the homage of many of them, as the Khans of Haim, Igour, etc. Tchoulo, then Grand Khan of the Western Turks, evaded the summons, and was deposed by the Emperor. The capital of the Turkish empire was then situated in a mountain called by the Chinese San-mi, north of Aksou.

Persia was now holding up its head again. In 579, Khosroes Anouschirvan had traversed Mavera-ul-Nehr, and assailed the possessions of the Turks beyond, where he forced a peace upon the Grand Khan, and married his daughter. In 590, under Bahram, his successor, the Turks were defeated, and forced to pay tribute. About 619, the Turkish power revived. Tum Chehon, the Schaon Schah of the Persians, subdued several rebellious tribes, and even conquered a part of Persia. But prosperity among the Turks was always very transient; so many dependent tribes being always ready to assist the Chinese in breaking up any preponderating power. After a short unstable reign, Tum Chehon was murdered in 628. His death was followed by great anarchy and confusion. About 638, there were two chief candidates for the throne; and, at length, they divided the empire between them. One of these was called Yokoche: he had the country west of the river Ili, and established his court near Taras; he became, says De Guignes, a very powerful prince; he subjected the Siberian folk, called Kiekou (Kirghises or Bourouts), who occupied the country from the Angara and Lake Baical to the Obi and the Irtysch; he even penetrated further north, and conquered the kingdom of Poma, situated

towards the mouth of the Jenisei. About 641, he defeated the Khan of the other division of the Turks, appropriated his country, overran Tokharistan and apparently a portion of Khorassan, and even pushed his conquests as far as India. He died in 653. In searching among the traditions of the Turks for some traces of a warrior so famous, and a conqueror whose armies overran such a wide area, we are forced to the conclusion that he can be no other than Oghuz Khan, from whom the Gusses took their name, who is treated as an eponymous hero by many writers, but who was, I believe, as historical a personage as Seljuk, Othman, and Euzbeg. Oghuz is, word for word, Yo-ko-che, when transformed by Chinese pronunciation. This identification I believe to be new, and I shall treat of it in detail on another occasion. We are told by the Chinese (see De Guignes, i, 485), that Yo-ko-che was succeeded by his son Kie-pi-ta-tou, about A.D. 653. This seems to be the Turkish name Kiptchak, borne by many individuals, and by several noted tribes, among the Euzbeks, the Kazaks, and Nogays, and which, we are told by Rubruquis, was an indigenous name of the Comans or Gusses. The Chinese historians tell us nothing of him. About 657, the Chinese seem to have overrun Tartary to the borders of Persia, and to have divided it into provinces, and appointed two khans, between whom the country was shared. This division, as usual, was followed by anarchy, each separate clan and tribe aiming at independence, and when, chafing at the exactions of a strong neighbour, moving further west or north, and occupying the greater part of the Kirghiz steppes.

About 692, the Tourfans, or Thibetans, took possession of Khoten, Kaschgar, Aksou, and the country west of Lake Jesikol, but were driven thence by the Chinese and Turks.

About 704, the Arabs, who had overrun Persia, defeated the Turks near Bokharah, and overran all Maver-ul-Nehr. So-ko was then the Khan of the Turks, who were very much divided and broken by the intrigues of the Chinese and the jealousies of the different tribes. The Arabs were not slow to take advantage of these troubles. Under Catiba they possessed themselves of Kharizm and Samarcand, where the Turks had been some time dominant. About 719 they overran Ferganah; and in 737, under Asad, son of Abdallah, beat the Turks again in that ill-fated march-land. The central power of the Turks gradually got weaker, and was pressed on all sides by Arabs, Chinese, Thibetans, and a new confederation of Turkish tribes, which was now raising its head; namely, the Hoeitche. De Guignes says that, from about A.D. 735 they were driven more and more to the west by the Hoeitche, and gradually fell under the yoke of that people.

In Ferganah, at Kaschgar, and in the country of the Ouigours, petty khans existed, who survived all these disasters; they were versatile in their allegiance, and were ever ready to call in the Arabs and Chinese to help them against the Great Khan. In Maver-ul-Nehr, and in portions of Khorassan and Kharizm, numerous Turkish clans were settled, and, when converted to Islamism by the Arabs, became their trusty soldiers. In the steppes north of the Aral, the Turks proper had for two centuries harried and plundered; and they had to a great extent driven out the former inhabitants.

We must now take a rapid survey of the encroachment of the Hoeitche, bearing in mind what we have already said as to a new name meaning the supremacy of a new tribe rather than any actual change of race. I hold that the Uzes, who, in conjunction with the Khazars, attacked the Petchenegs, came from the steppes known to the Arabs as the Desert of the Gusses, between the Sea of Aral and the Caspian, and from the steppes of the Kirghiz Kazaks. We are told by the Arabic authorities collected by D'Ohsson (*"Peuples du Caucase"*), that they were divided into three sections, Upper, Lower, and Middle (a parallel to the later Kazak divisions), that the city of Hadilse (*i.e.*, new town), situated one parasang from the River Sihoun, and two days' journey from the Aral Sea, was the winter residence of their sovereign; their commerce was chiefly carried on at Courcandge (Khiva). From this area came the Uzes, who attacked the Petchenegs; from the same came the soldiers, who, under Arslan and the other early Seldjuks, invaded Persia, who are also called Uzes (*vide* De Guignes and others). The word Uzes is used by the Arabs in two senses: first, in a restricted sense it refers to the invaders of Persia and the west after the tenth century; secondly, it is the generic name under which they include many of the Turkish tribes beyond the Oxus. According to D'Ohsson, who is apparently following Raschid, they thus include the Cancalis, Carlouks, Ouigours, Calladges, Kipchaks, Agatcheris, and others—the same tribes that formed the great nation of the Hoeitche at the invasion of Persia by the Seldjuks. The Great Khan of Tartary was the Khan of Kashgar. His nation was known as the Lion Hoeitche to the Chinese; a similar name was applied to them by the Arabs (*vide* D'Ohsson, *"Peuples du Caucase,"* 150). They were, apparently, the Carlouks of other writers. They then dominated over the Ouigours (the Tagazgaz and Bagargar of the Arabs), who seem, however, to have still had a Khan of their own. A similar dependent Khan reigned over Fergana or Turkestan, his capital being Aksou. He was the descendant of a long line of kings, traced up to the almost

mythical Efrasiab. South of the Oxus, the Arabs ruled over the whole country as far as the Caspian. No permanent Turkish settlers were there, save the slaves captured and bought by the Arabs and the remains of a disintegrated invasion, to which I have already referred. North of the Aral and in the Kirghiz steppes, the Turks were predominant.

The earliest recorded invasions to the south of the Oxus and west of the Volga, are synchronous, both being the results, apparently, of one impulse. If we examine the cause, we shall find it in the fact that this date is also synchronous with the destruction of the Samanide dynasty. This powerful Arab dynasty had for two hundred and fifty years been supreme in Khorassan, Transoxiana, and the great wilds of Khorazm. The Turcoman inhabitants of these districts were their subjects and in many cases their slaves. In 993, we are told Bograh Khan, the Great Khan of Tartary, who ruled from Kaschgar to China, and under whom were several dependent Khans, entered Transoxiana, and drove out the Samani ruler, and even advanced as far as Georgia. He fell, ill, however, and died the same year; and it was his successor Illik-il-Khan—the Yelouke of the Chinese—who put to death Abdal Melek, the last of the Samanides, and subdued the various petty Emirs. He married his daughter to Mahmoud of Ghazni, the celebrated Indian conqueror, and gave up to him a portion of Transoxiana and Khorazm. It is with the advent of Bograh Khan and Illik-il-Khan, that the Uzes first appear. The sons of Seldjouk, who led them into Persia, were *protégés* of the former of these conquerors. They would seem, from Dherbelot's account of Seldjouk, to have been still unconverted to Islam, and were therefore strangers to the Mussulman border-land of the Oxus. They can, in fact, be no others than a band of the Hoeitche—a name which seems the same, word for word, as Uzes—invaders from beyond Kaschgar. After breaking peaceably through the petty Khanate of Fergana or Turkestan, they overran the area now occupied by the Uzbek Khanates, overran Persia as far as Syria, and Russia as far as Hungary, were the subjects of the Khorazm Schahs, of a somewhat later date, and the ancestors of the great Seldjuk and Ottoman dynasties, both of which traced their origin to the Uzes.

The Hoeitche, it is reasonable to suppose, were not driven in one direction only. One portion, at least, we might expect to have taken the great marching route towards the west, across the Aral steppe, and we do find that about the time of their disruption new invaders are mentioned in the west, namely, the Petchenegues. We have already dealt at some length with them. Constantine Porphyrogenitus tells us they were formerly called Kankar. He tells us, in another place, the name Kankar was

not borne by all their tribes, but was confined to the three noblest. We have shown that Cancar is the same word as the Cangli and Cancali of the mediæval and Arab writers. Abulghazi derives their name from the Turkish "kang", meaning a chariot. Abel Remusat has shrewdly pointed out that this is the meaning of the name Kaotche, by which the Hoeitche were also known. It would seem, then, that a portion of the Hoeitche, driven westwards, conquered the Turkish tribes of the Steppe (probably the Thiukiu), and were held thence to be of a superior and nobler caste; they, as we have shown elsewhere, precipitated the Hungarians upon Europe.

Having dealt with the dispersion, we may now consider the rise of the Hoeitche. Originally, a small tribe on the borders of the Toula and the Selinga, and around Caracorum, under the name of Kaotche, we find them subjects of the Hiong Nu, or, perhaps, forming one of their tribes. They consisted of fourteen tribes, each governed by its own chief, of which that called Hoeitche, or Goeitche, was the chief. About 429, they were beaten by the Chinese, and many of them were settled on the Chinese frontier. In 606, they were subdued by the Thukiue. About 646, their khan was called Tou-mi-tou: he had considerable intercourse with China, which led to many amenities of civilisation being planted in the desert, described by De Guignes. About 685, their country was overrun by the Thiukiue, and they were driven towards Kantcheou—that is, the later country of the Ouigours. About 744, they took possession of all the country of the Thiukiu, and fixed their royal residence near the river Kuen-ho. Their khan was then acknowledged as Grand Khan by the Chinese. In 758, his ambassadors disputed for precedence at the Chinese Court with those of the Caliph Aboudjiasar-al-Mansor. In 840, they were attacked by a hundred thousand Siberians, called Kie-kia-su (the ancestors of the Kirghises and Bourouts); and in 847 these tribes broke up and destroyed their empire.

In speaking of the Naymans, in a previous paper, we have already hinted that they were possibly the descendants of the Hakas, or Khirgises, who, about the year 847, broke up the power of the Hoei-tche. Their kingdom formed the western frontier of the country of the Hiong-nou, who created Le-lim, a Chinese general, their king, under the title of Hien-yam. On the fall of the Hiong-nou, they apparently became subject to the Thiukiu, whose khan gave his daughters in marriage to their chiefs. About 648, hearing that the Hoei-tche had submitted to China, they also sent ambassadors. The Emperor raised their country to the rank of Fou—*i. e.*, the first rank. In the year 758 or 759, they were completely defeated by the Hoei-tche.

Their chief was called the Age ; on the decline of the power of the Hœi-tche, he took the title of Khan. The Hœi-tche sent an army against them. The war lasted twenty years, and was unsuccessful. We are told that the Age insultingly jeered the Khan of the Hœi-tche : " Thy day is over (he said) ; I am come to take thy golden tent, to plant my standards in front of it. If thou carest not to meet me, I bid thee retreat without halting." The Age thereupon invaded his country, defeated him and cut off his head, set fire to his tent, and retired with great spoils to his own country. About 844, Ou-kiai was khan of the Hœi-tche : he had retired, we are told, with his people, among the Hetchetche, or Che-ouei. The Age of the Kie-kia-sse was made Grand Khan about 847. From the year 860 to 874, three embassies came to China from the Kie-kia-sse. After that date, they no longer appear in the Chinese annals, confusion at home leaving little time and opportunity for reporting the doings of remote tribes.

The empire of the Hœi-tche in the east was thus uprooted. Its broken fragments were driven towards the south and west. Long-te-le, chief of certain hordes of the Hœitche settled west of Kan-tcheou and Cha-tcheou, and subdued all the towns west of the desert. *These* Hœi-tche, bordered on the west by the Mohammedans of Transoxiana are the Turks called Odkhos by the geographer of Nubia. Most probably, also, the Carlouks of the Arabs. About 842, Salam made a journey into their country, and found many Mohammedans among them ; many of them, on the other hand, were fire-worshippers. About 874, they were defeated by the Thibetans, and driven further westward. In 875, they sent an embassy to China. About 893, the Samanides, who had taken possession of Transoxiana, or Mavera-ul-Nehr, invaded their country, and took their khan prisoner, with ten thousand of his soldiers. About 923, their khan was called Gin Mœi ; to him the Emperor of China gave the title of Ing-y-Khan. About the year 992, their khan, as we have said, was Bograh Khan. We have traced out their further history as the Lion Hœi-tche of Kaschgar.

Other fragments of the Hœi-tche formed the main strength of the Khanate of Kiptchuk, overthrown by Zenghiz. The greater portion of the Turcomans, the Kazaks, and the Tatars of the so-called Great and Little Tartaries, are descended from them. Before the break-up of the power of the Hœi-tche, their sandy wastes were for the most part inhabited by an earlier wave of population. If we treat the above tribes as the kernel, we shall find them bordered all round their northern and western frontier by a layer of Turkish populations, which have much in common with one another, and may be clearly distinguished from *them*.

Commencing in Europe, and going round, we have the Tchuvashes, the Meshtsheriaks, the Baschkirs, the broken tribes of Siberia Proper (as the Katschinzi, the Tchoulymsky, Kaidinzy, etc.), the tribes of the Steppe of Baraba or Barama, called by the Russians Barabinski; and, lastly, the Bourouts, whom we have shown to have emigrated very lately from the neighbourhood of the latter. All these tribes are Turk in language, and in some other respects; but their blood is very much mixed with that of the pre-Turkish folk. To all appearance, they were the advance guard of the Turkish invasion, and were pushed further north and west by the later Turks and the Mongols, until they occupied their present area. We must say a few words about them.

The Tchuvash call themselves Vereyal Khirdiyal and Vyres. According to Müller, the Russians call them also Vyress. This particle Vyr, or Ver, reminds one that the Avars, or Var, as the Byzantines called them, were once the dominant tribe in this area. The languages of the Tchuvashes is very much mixed; a great portion of it not being Turkish, but Ugrian. It is very like that of the Jakuts. Pallas, who has devoted several pages of his travels to a description of their manners and customs, points out how, in their religion, etc., they resemble the Mordvins and other Ugrian tribes. They are, in fact, the remnant of the race which occupied the country at the advent of the Turks, mixed with a considerable element of those invaders.

What is true of the Tchuvashes is true also of the Meshtsheriaks: they, too, are a Ugrian race overlaid by a Turkish element; their name occurs as early as the days of Nestor; they are found chiefly in the old khanate of Kazan, and have often proved faithful allies of the Russians in their contests with the Baschkirs.

The Turkish element in both Tchuvashes and Meshtsheriaks may be as old as the days of the Thu-kiue, or earliest Turks, or it may date from the invasion of the Gusses. We have no means of knowing exactly. We, at least, know that the Hungarians were driven from a portion of this area by the Petchenegs in the ninth century, and that the name Meshtsheriak is identified with Majiar by V. St. Martin. The ancient home of the Hungarians, as we have shown in a previous paper, was Baschkirland; they were the primitive Baschkirs. The present Baschkirs are still called Ishtaki by their neighbours, and bear many traces of a mixed origin, in which the Turkish element now prevails very strongly. The Hungarians were also called Oughres. The Oughres were known to the Byzantine authors at an early date; a portion of them having been driven south, as we shall show in the next paper, by the Avars. They became subject to the

Thu-kiue, or Turks proper, in the sixth century; and from this fact the Hungarians were called Turks by Constantine Porphyrogenitus. From the sixth century, when these Thiukiu first invaded the west, until the decay of the Nogay power, Baschkirland was the marching ground of many bands and tribes of Turks; and it was doubtless between those dates that the Turk character was firmly fixed on the Baschkirs.

Next to the Baschkirs, is the government of Tobolsk, the very ancient province of Ibir Sibir, or Siberia Proper, now inhabited by many broken pagan Turkish tribes, which, like those we have mentioned, show many traces of a mixed origin. It was the seat of the Siberian Khanate founded by a brother of Batou Khan of the Golden Horde, and, during the existence of that Khanate, ~~received~~ a large accession of Turkish blood; but it was partially Turkish before that. As we shall endeavour to show in the next paper, its original inhabitants were the Savirs or Sabiri, who were also victims of the Turks; and here also, as in the Baschkirland, the Turkish element began its intrusion about the middle of the sixth century, and continued to receive recruits from every unfortunate tribe that was swept across the steppes by invaders from the east.

The same remarks apply to the Barabinski, Yakouts, and earliest Kirghises. Baraba is a corruption of Barama, a Ugrian word, meaning the country of the Bar—*i.e.*, of the Bor, or Bour. *Out* in Yakout, Bourout, etc., is merely a Turkish termination; therefore Barabinski and Bourout are the same word. Sokha, Sokhalar, are names common to Barabinski tribes, and also to those of the Yakouts. The three races are, in fact, branches of one race, whose Turkish ingredient has probably (as is stated by Jardot of the Kirghises) been derived mainly from the break-up of the Hœi-tche; but also, no doubt, in some measure, from the earlier wave of the same race which we have spoken of as conquering Siberia and Baschkirland in the sixth century; viz., the Thu-kiue, or Turks proper.

We have now followed up the history of the stream of Turkish aggression to the sixth century. About the middle of that century, the Turkish name first appears in western writers; and until that date, so far as our evidence goes, no Turkish race ever came in contact with Europe, or Southern Asia. If we are to understand the vast migrations of barbarous tribes that took place in the fourth and fifth centuries, and which overthrew the Roman empire, we must forswear much that Dr. Latham and others have made popular in ethnology. We must sweep the Turks clean out of Siberia Proper and the deserts of the Kirghise Kazaks, back to the rugged country of Turkestan, Kaschgar, and the tableland of Pamir. We must sweep them

into the Altai Mountains and the country beyond, where the old empire of the Hiong-Nu had its seats. We must turn our backs on the plausible but long since exploded theory of De Guignes, that the Huns were the same folk as the Hiong-Nu. The Hiong-Nu were Turks, and the mere resemblance of the name has misled the great French historian of Turan. Having thus cleared our path, we can with greater freedom examine the pre-Turkish inhabitants of this vast area. The Avars and White Huns, who both the Chinese and the Byzantine authors tell us were predominant in its eastern portions, and the Bulgarians, who inhabited a section of its western portion before they were driven forward towards the west and north by other invaders. In the beginning of the sixth century, the boundaries of the Turk race were: on the north, the Altai and Saian Mountains which separated them from Siberia; on the west, the Pamir Steppe and Ala Tau Mountains; on the south, the northern limits of Thibet Proper; while on the east they stretched away along the Chinese wall, and were, with the Khitai of Leao Tong, the only northern frontagers of China. Our next paper of this series will treat of the Avars.

The CHAIRMAN having directed the attention of members to the date of the forthcoming meeting of the British Association at Edinburgh, on the 2nd August, and announced that the delegates of the Institute would receive and take charge of all papers sent in for reading in the department of anthropology, adjourned the meeting till November next.

ANTHROPOLOGICAL MISCELLANEA.

BODY AND MIND.*

WHEN Bishop Berkeley said there was "no matter", he little dreamed that, A.D. 1870, matter would so completely overthrow metaphysics as to display phenomena which may, in their course, revolutionise the scientific world.

The gist of this volume is the matter of mind, and is naturally a dead set against the mental philosophy which was in fashion from Plato and Aristotle even to the era of Locke, displaying one brilliant tissue of metaphysical sophistry, garnished with illusions of fancy and symbolism. Erasistratus and Herophilus, it is true, the earliest dissectors of the brain, alluded to the *πνευμα ψυχικον* as lodged in the cerebral tissue; and, in the fifteen century, Metry and Hundt scratched off their whimsical crotchets of craniography; and, three centuries afterwards, Gall and Spurzheim sullied the wisdom of their ingenious psychology by their fanciful mappings of the cranium as demonstrative of cerebral organism. But the *rationale* of the physiology of the hemispherical ganglion none endeavoured to explain, until Reid, the first rational noosologist, wrote his treatise on "The Fabric of the Mind, on the Principles of Common Sense", referring the phenomena of intellect mainly to impression of the senses on the brain: "Nihil in intellectu quod non prius in sensu."

In dilating on this abstruse subject, we are conscious that every student of noosology will regard it from his own standpoint, for his reasoning will be naturally warped by the special study of his life. The sceptic will pin his faith on the dogmas of Lamarck, and Oken, and Comte; the metaphysician, in working out his abstract reasoning, loses his way in a labyrinth of philosophical conjecture; the theologian, deeming the subject too sacred for scientific disquisition or controversy, is content with the revealings of Holy Writ, and believes it *dignius credere quam scire*. It is the physiologist alone, with the elements of life and mind ever before him, who is the legitimate exponent of man's earthly nature, and may presume to demonstrate, both by healthy and morbid sympathies, the phenomena of intellect. Yet, withal, the science of mind is no light study. Universal genius,

* "Body and Mind: an Inquiry into their Connection and Mutual Influence, specially in reference to Mental Disorders; being the Gulstonian Lectures for 1870, delivered before the Royal College of Physicians; with Appendix." By Henry Maudsley, M.D.Lond. London: Macmillan and Co. 1870.

like Lord Brougham, may dare to dabble with it ; but the Benthamite spinster found herself "hopelessly adrift on a sea of conjecture"; and Warren was scared by "suddenly sinking into an abyss": so they may rest content with the quibble, "What is mind? no matter. What is matter? never mind." Even the accomplished John Abercromby, tritely affirming that "mind is that part of our being that thinks and wills and reasons", presumes not to fathom the organic physiology of its manifestation.

Dr. Henry Maudsley is a bolder man. Enlightened by a fresh gleam of *γνωθι σεαυτον*, he sets himself, before the learned magnates of his College, not only to gauge the comparative majesty of mind and matter, but to prove that matter is well-nigh omnipotent in Nature ; and now he challenges us, somewhat dictatorially, to cotton with him, and "to discover, by direct interpretation of Nature, how much matter can do without spiritual aid."

We confess we were, for a moment, startled by this proposition, so curtly and so boldly advanced ; and, with filmy visions of Rosicrucian mysteries floating before our eyes, we thought how lucky for the author he lived not in the days of Galileo or Servetus.

We reflected, moreover, that, ere we could calmly criticise, we should be clearly possessed of the author's idea and definition of the mysterious element of spirit (on which, indeed, we may essentially differ). But, even with the light of archæologic revealings before us, however firm its faith may be, science may not here presume to broach the doctrine of final causes ; for we must, like Thales, give up the study of *Αρχη* in despair : the dogma of the positive school, "there is no beginning but a pre-existent force and its correlates", it were folly to discuss. We may just remark, however, that, without commenting on the direct influence of the deity, we were taught to believe that in the birth of thought there was some loftier element than matter, an exotic influence, call it what you will, *ψυχη, φρην, νους, πνευμα, θυμος* (the immediate soul of the ancients) that played a prominent part in the mystery.

The discussion is, of course, without the pale of physical science, and we may not presume to claim from Dr. Maudsley faith in deity or demon. When, however, the author writes of "the beneficent evolution of the power which ruleth alike the courses of the stars and the ways of men," we may hope there is an undercurrent in his mind, and that he may refer, not to the self-creating force of the monad-cell, but to the invisible intangible force of the deity which *endowed* the monad-cell with a vitalised germ ; as rational to imagine as an inorganic atom with the inherent faculty of *itself* creating a germ of life. We profess our faith in the modifications of this principle of endowment, as the grand element of mental physiology, and, indeed, of the magnificent constitution of Nature herself. With this reservation, we accept the *matter of mind*, and we may freely discuss the subject of *encephalology*, the science of the brain.

The grand theme of the author is clearly the unity of mind, which he engages to demonstrate "within the limits of the knowable." And

so we may believe that the author agrees with Herbert Spencer that "the brain and mind are one", and believes that the function of the medullary tissue is the secretion of thought; thus giving up mind as an independent and definite element, and reducing it to a mere product of matter. But, even then, this *welting* of brain and mind seems to be a very servile element; for we learn (p. 121): "It must be understood that by the assertion of the organic basis of mental function is not meant that the mind imposes the laws of its own organisation; on the contrary, it obeys them, knowing not whence they come or whither they tend." Yet this source is almost affirmed in the general argument. By this hypothesis, it is clear, all special organisation is tabooed, and the system of Gall and Spurzheim falls at once to the ground.

Regarding the question of the *Anima brutorum*, Dr. Maudsley cautiously observes, "without doubt most animals do evince the operation of mind; but whereabouts in the animal kingdom it first appears, and what part it has in the lower nerve functions of man, are questions not easily answered." Here, again, we ought to have a comparative definition of the qualities of the *Anima brutorum* and the *Anima rationalis*. The author then asks, "Is the brain the exclusive organ of the mind?" and, to prove the vicarious influence of special reaction, he cites the experiments of the headless frog and brainless pigeon that so startled the age when galvanism was a novelty. We cannot gainsay the experiments; but we cannot accept them as proofs of rationality and high intelligence imparted by spinal or ganglionic influence: the movements are automatic, reflex actions from the direct infliction of a stimulus, resembling the writhings of the mutilated worm—perhaps even the contractions of the mimosa. It is not the effort of an element that forms conclusions, but the mere instinctive memory of an impression, and not the action of design. The tyro of neurology will do well, however, to study the remarks on excito-motor action, and the perfection they may attain.

The author locates consciousness, which we may adopt as mind proper, in the hemispherical ganglion—as Brodie, we remember, believed it had a special organ, *somewhere*.

The author does not comment on the two bundles of nerve-cord within the spinal sheath; and we may still look on Charles Bell and Marshall Hall as the exponents of reflex or inverted actions. So also we may admire the author's remarks on the anatomy of expression and emotion, yet they are not so graphic as those of Chas. Bell.

The theory of memory and of prophetic dreams is not new; the subject is, we believe, too ethereal for the rigid physiology of the day.

We fully endorse the remarks on the influence of digestion on the change of ideas, from *l'allegro* to *il penseroso* during the process of digestion. In a few minutes, a complete metamorphosis of feeling and sentiment may ensue, especially while the ingesta are still above the pylorus. Simple gastrodynia is but a foreshadowing of acute hypochondriasis, the climax of which may be suicide.

Dr. Maudsley seems to believe that the ant and bee possess the

power of adaptation to new experiences, and, doubtless, there are gleams of volition, even something like reasoning, but it is *special instinct* that forms the honeycomb with such mathematical precision. The bee works by impulse, true as the needle to the pole. More of this we know not, and it is refreshing to echo the author's axiom—"Actions for a definite end, having, indeed, the semblance of pre-designing consciousness and will, may be quite unconscious and automatic."

True, Kirby and Spencer have cited many a marvellous story of adaptivity of action in wasps, etc. ; but we must be wary of isolated anecdotes, which may be indications of mere memory. We doubt the voluntary action of the cord ; the direct voluntary action of the brain is ever incipient. "But", we are told, "while the automatic acts take place independently of the will, the will may be absolutely dependent on the organised experience in the cord for the accomplishment of its ends." Is not the cerebral hemisphere thus somewhat slighted ?

The recurrence of ideas from change of condition of the brain is even now a mystery ; so also are the parallel cases of the suspension, even the conversion of the memory of early ideas, in place of those of yesterday, by maniacal excitement, and the transition again to present impressions when the frenzied fit was off. The remarks on this subject are very acutely illustrative of the sympathies of the high nerve-centres. When, however, the cicatrisation of wounds is cited as an act of memory, we must really demand the coining of another word for this interpretation of the *vis medicatrix nature*.

Faithful to his creed of unity, the author opens his second lecture with the fallacy, as we believe, of Dr. Bucknill, "neither in health nor in disease is the mind imprisoned in one corner of the body, and when a person is lunatic he is lunatic to his fingers' ends"; and yet he asks, "what is mental disorder ; is it not a morbid state of one or more cells of the cerebral hemisphere?" Pray, is not this *partial mania*, in *disproof* of unity ; but asylum doctors are prone to generalisations.

Then Dr. Maudsley folds idiocy and mania in the same pen, although one is from arrested development, the other from morbid influences. When, then, he asks, whence come idiocy and insanity ? we may merely answer, from very different sources. Then, on the *habits* of idiots, he asks, "Whence come these animal instincts?" Surely man has his animal instinct as well as his reason, and when reason fails, of course instinct predominates. A little leaven of philosophy might not be unwholesome in the course of these arguments. Differing so much from Dr. Maudsley on these points, we waive the analysis of a dozen pages of curious cases, etc. ; and we may merely observe that the comparative weight of brain (p. 55) from Cuvier to Gauss proves the sagacity of Parmenides, who eight hundred years before Christ, affirmed that the highest quality of brain evinced the most perfect thought.

From page 61, even to the end of the lecture, we have a sort of

running comment on the medico-legal question of mental alienation. Insane neurosis and hereditary insanity are the grand questions that incessantly bewilder the sages of the criminal court, and hoodwink the jury. Every shade of atavism for many generations is caught at and warped and torn to shreds by the defence. And, we must admit, the jury are not altogether to blame, in taking leave, on the plea of the diametric opinions of professional witnesses, to drop into the mercy seat, and be at peace with their conscience. The question is far too serious for a critique; and for the rational elucidation of the truth, we may refer to the Lettsomian lectures of Winslow, the essays of Bucknill and of Thurnham, and these Gulstonian lectures of Maudsley. We cannot hope that the coil of cases of insanity can be unravelled by any but a pure pathologist, able to analyse acutely; yet, unhappily, he is the man at whom the learned in the law are most fond of aiming their barbed arrows for his heretical slight of legal metaphysics, and too often by ridicule wring out a false decision.

We wish the author had dilated more on the *responsibility* of those whose vices have induced their own insanity. He who, by nursing a dark revenge, or by slavish indulgence in intoxicating drink, *makes himself mad*, and then commits a capital crime, is equally a criminal as a conscious and clear-seeing villain, and deserves equally the infliction of the severest penalty of the law: yet this crime of drunkenness may soften down the penalty of murder to a paltry five shillings!

On insane temperament and kinship the remarks are very judicious; yet the author does not satisfy us regarding the origin of moral evil. Its association with organic defect or disease is yet a fertile field for the philosophical pathologist. Its deeper study would have qualified Dr. Maudsley's decision (at p. 72), "how grossly unjust then the judicial criterion of responsibility which dooms an insane person to death if he knew what he was doing when he committed a murder."

We can fancy the facial distortion in the *umbræ* of Charles Lamb, Sydney Smith, Tom Hood, Barham, and even Charles Dickens, at the comments of the author on *punning*, and the expression of "an idea in a double sense", as a symptom of insane temperament; but some of the punsters, it is clear, had hard brains and others soft, and these latter, we suppose, are the wits allied to madness. The pathology of the whole lecture is indicative of very acute observation on the yet almost *maiden* subject of rational encephalology.

The third lecture is confessedly pathological. Yet the insanity from morbid sympathies is, in varied degrees, so often displayed, that it may be fairly glanced at as an anthropologic subject. Faithful to his idea of an all-pervading neurosis in the pathology of intellect, Dr. Maudsley proceeds to describe the varieties of mental aberration from excitement of the special cerebral organism, and the peculiar derangement of direct or reflex sympathy, and dilates very sensibly on hysterical, pubescent, sexual, puerperal, periodic, and sympathetic insanity; and the pages (from 81 to 94) are replete with remarks of practical value. They strike at the root of those illusions of the Middle Ages,

the visions of Sta. Theresa, and other hysteric devotees, and the erotomania of many a holy sisterhood, which in those dark eras were so often referred to demoniacal possession, and doomed by the blind bigot to chains and flagellation. The moralist may clearly prove how much devotion, education, and self-control can effect in the arrest of these erotic paroxysms, if they be adopted in early stages.

The insanity from morbid sensation is yet to be studied more deeply. We have known many who have prophetically foreshadowed their illusions, graphically describing feelings, faintly resembling aura epileptica, creeping on until the sensation settled in an organ; and then began the illusions that were clearly associated with the functions or properties of such organ. The distress from hernia in men, and prolapsus in women, is often so severe as to induce real maniacal paroxysms. The subject, however, is more that of physis than of physics, and more adapted to the sophs of Pall Mall than those of St. Martin's Place.

On the sympathy of the stomach with the brain the author's remarks are very suggestive: simple dyspepsia is ever distressing, its acute form is among the most severe *irritamenta malorum*, overshadowing the mind, and setting it to brood over imaginary evils. The spot in which these severe and indescribable feelings are centred is in the *epigastrium*, about the *ensiform cartilage*, and hence the term hypochondriasis for those perverted sensations which so often induce suicide. The subject of delirium of exhaustion, defective nutrition, and gastric inanition, the influence of poverty and vitiation of the blood as causes of insanity, we doubt not, were listened to at the College with deep attention.

Dr. Maudsley winds up his third lecture with fresh allusions to his pet subject of *unity*, yet we confess our impression that his conclusions are not always illustrative of his arguments. Even if the brain and mind compose one combined endowment, we might have been favoured with some gleams of the special medullary cells illustrative of the *diversity* of mental wisdom and mental illusion. Agreeing with Dr. Maudsley in his estimate of nerve-element in mental manifestation, we are happy to learn that the dethronement of superstition will be "a step in human progress, and in the beneficent evolution of the power which ruleth alike the courses of the stars and the ways of men."

To complete the conventional volume is added a reprint of an essay from the *Medico-Chir. Review*. It is perfectly congenial with the lectures, and is entitled, "The Theory of Vitality." The first spark of life! Whence, and where, and when, and how, and what? We may here write calmly on the subject, but, next to the *latest* scintilla, this is the most awful problem that can engage our thoughts. We forget—we are here writing on the *present* position of Science, which, in its pride of place, will now presume to plunge at once *in medias res*. This we may gather even in the preface. There we read—"Whether living matter was formed originally, or is now being formed from non-living matter by the operation of physical causes and natural

laws, are questions which, notwithstanding the lively and vigorous handling which they have had, are far from being settled." Who will not feel that even this glimmer of doubt is a startling proposition? But read on: "The one conclusive experiment, indeed, in proof of the origin of living from dead matter will be to make life." Conclusive indeed! Perhaps the most discreet thing would be to refer the reader for an illustration to the discourse of the learned Coryphæus of Epigenesis; but it will be hard to make Dr. Maudsley, heroic as he is, responsible for the platitudes of another, regarding the creation of the protoplasm. The microscope is certainly unfolding arcana that bear, *primâ facie*, a faint resemblance of creation—the conversion of a seemingly inert atom into a living, moving being. Yet we have no clear proof that life was here formed, *de novo*, of fresh combinations of *nitrogen*, *hydrogen*, and *carbon*. Until we can demonstrate that a clod may be gifted with a law to make life independently of creative power, we cannot hail any modern Prometheus as a life-maker, however ingeniously he may expatiate on the evolution of the protoplasm.

Towards the conclusion, the author draws in his horns in these words: "It is easy to perceive how impossible it is, in the present state of science, to come to any positive conclusion with regard to the nature of the vital force." And yet his brain is charged with ideas that are absolutely heterodox, strange to say, so shallow and puerile as to excite a smile. Such is the doubt regarding the *persistence* of the living cell. "A definite quantity only (of germs) could have been derived from the mother structure, and that must have been translated at an early period of growth!" We simply refer to the multilocular cyst, and ask the author where is the limit to the conversion of active vital germs into *parent* cells?

We may glance also at this crude hypothesis: "Admitting that the vital transforming matter is at first derived from vital structure, it is evident that the external force and matter transformed does in turn become transforming force" (that is *vital*); "and if that takes place after the vital process has *once commenced*, is it extravagant to suppose that a similar transformation might, at some period, have commenced the process, and may even now be doing so!" An assumption too far advanced even as an interrogation. The foreseeing Brahmin might here whisper a hint to the Promethean, "Oh ye whose heads are pure, how could something come out of nothing?"

The author will respond with the dogma of the chemico-vital force: "Matter that has lived, lives again, brought out by electricity." This might some years ago have been for the moment accepted, when Mr. Crosse startled the scientific world with the evolution of an acarus from a solid mass of mineral by electricity; but on reflection, none could gainsay the possibility of this germ having been deposited thousands of years ago during the crystallisation of the rock: as we know that a vital cell may be dormant for ages, and at last be fertilised, like the mummy-wheat brought from Egypt by Sir Gardner Wilkinson. We may regard Dr. Beale and Dr. Gull as the exponents of these mysterious experiments with much hope. The last fifteen pages on vitality deserve very careful study.

The author *supposes* a law to illustrate cellular attraction ; may we not *suppose* a law of vital endowment even in the cell of the infusoria? This question of life-making trenches closely on the special fiat that may still be influential over the wide realm of Nature as at its first endowment. Here we cannot estimate too highly the inductive wisdom of Lord Bacon, from which has at length resulted the reversal of the method of investigation, from the most simple to the most complex, and this principle is well sustained throughout the volume, as well as the analysis of the *real* and the *ideal*, and the *progress of science*. Yet, of course, we may be long in shadow ; and the author's own words confess, discreetly, that the nature of vitality is still an enigma ; and it behoves every experimentalist to be in the minutest degree careful and truthful as he offers his arguments to the scientific world, or he may bewilder rather than enlighten.

Dr. Maudsley has illustrated very lucidly the different degrees of vitality, from the simple cell of the protozoon to the complex organism of man. Yet the phraseology might have been more simple. The blending of Vitality and Thought in the same comparative category smacks somewhat of the whimsical. In comparing blood-life with nerve-life, the author asserts the higher dignity of the latter ; it being the loftiest parasite, sucking the life of the blood. On this abstruse question, as on the *chronometry of organic processes*, broached by Mr. Paget, we must yet wait for more demonstration.

We have thus written boldly, perhaps presumingly, our comments on the novelty, and indeed the latitude, of Dr. Maudsley's views. Yet we must repeat our sincere laudation of the lucidity and force of his style of writing. He has given the world of science a bold challenge, and his study has clearly qualified him to sustain it against all comers, if not always with victory. His deep reading and research will tempt him to further daring, yet his wisdom may be the parallel of his learning ;—will he illustrate in his faith the axiom of Bacon : “While the mind of man looketh upon second causes scattered, it may sometimes rest in them, and go no further ; but when it beholdeth the chain of them, confederate and linked together, it must needs fly to Providence and Deity?”

DELTA.

DARWINISM: being an Examination of Mr. St. George Mivart's “Genesis of Species”. By Chauncey Wright, Esq. London: John Murray. 1871.

THIS pamphlet, which is a reprint from the *North American Review* for July last, is a defence of the theory of natural selection, as distinguished from evolution, against what Mr. Chauncey Wright terms “the most effective general criticism of the theory of natural selection which has yet appeared.” That the defence is successful, so far as it extends, cannot be doubted ; and its author may be congratulated on the great ability with which he has performed his task. He does not, however, keep out of sight the fact that Mr. Darwin has, in

the last edition of the "Origin of Species", admitted that, in the earlier editions, he had probably "attributed too much to the action of natural selection, or survival of the fittest," and that he now limits it to "adaptive changes of structure". Mr. Wright states that the only difference, on purely scientific grounds, between the views of Mr. Darwin and those of Mr. Mivart, who is himself an evolutionist, is in regard to the extent to which the process of natural selection has been effective in the modifications of species. He adds that "Mr. Darwin himself, from the very nature of the process, has never supposed for it, as a cause, any other than a co-ordinate place among other causes of change, though he attributes to it a superintendent, directive, and controlling agency among them." This should be kept in memory, and even if the place to which natural selection is entitled should be found to be less important than that assigned to it by Mr. Darwin, the great service he has done on behalf of the general principle of evolution should not be forgotten.

MAN CONTEMPLATED PHYSICALLY, MORALLY, INTELLECTUALLY, AND SPIRITUALLY. By J. W. Jackson, M.A.I.

THIS is a small work, of which the first part only has yet appeared, by a well-known writer on anthropological subjects. It is hardly possible yet to criticise the work; but it may safely be said that it presents those marks of conscientious thought and broad-mindedness which characterise all Mr. Jackson's productions. His view of the nature and destiny of the savage is just; and his remark, with reference to the black peoples of the tropical area, that they are simply "primitive man, perpetuated under primeval conditions," is both true and striking. The strictures on the "specialism" of anthropologists are not altogether undeserved, and they might with justice be extended to the cultivators of other branches of science. But science, nevertheless, would fare badly without specialists.

THE HURON RACE, AND ITS HEAD-FORM. By Daniel Wilson, LL.D.
(Read before the Canadian Institute, April 8th, 1871.)

DR. WILSON, when he originally applied himself to the study of the Huron head-form, was prepared to find a prevailing uniformity of type, owing to "seemingly favourable circumstances of isolation." In this he was disappointed, his experience being, like that of Dr. Meigs and later inquirers, that "the comprehensive generalisations of earlier American ethnologists, under the guidance of Dr. Morton, which led to the doctrine of a homogeneous cranial type for the American aborigines, has everywhere failed when subjected to the crucial test of detailed observation." As to the Huron head-form, Dr. Wilson, who examined upwards of seventy skulls belonging to a single tribe, asserts that it is undoubtedly dolichocephalic. There is, however, much cranial diversity; greater uniformity being in physiognomy. "The nose is in most cases large and prominent; the superciliary ridges in the males are strongly developed; and a common ethnical character may

be traced in the full face as a whole, including the massive, broad cheek-bones and superior maxilla; as well as in the indications in the greater number of a tendency towards a pointed apex, or meeting of the parietal bones at an angle at the sagittal suture." Measurements of twenty Huron skulls are given; and Dr. Wilson's memoir is rendered still more valuable by three plates of Huron skulls, from different points of view.

THE MIAU-TSI. By the Rev. J. Edkins.

MR. EDKINS' pamphlet is a comparative vocabulary of the Miau dialects, with introductory remarks on the people themselves. In the former character its value, owing to the little that has hitherto been known of the Miau language, can hardly be over-estimated, more especially as the sources from which it is compiled appear to be reliable. The author, who, it may be stated, is favourably known by his work on the Chinese, says that the Miau are mentioned in Chinese history for four thousand years, and that "all the tribes whose race name is Miau or Man, are of Chinese consanguinity, and arrived in South China either before or contemporaneously with the earliest Chinese history." The more powerful Lo-lo, who are usually classed with the Miau, appear to be allied to the Thibetans and Burmese. The Miau-tsi are described in a Chinese decree, as having "deep eyes, long bodies, dark faces, white teeth, crooked nose, with plaited hair and beard." They use charms, practice divination, worship demons and the spirits of their ancestors, and offer cows and pigs to the mountains. The Ki tribe are zealous Buddhists. Burning the bodies of the dead is practised by some tribes, but not by all.

MECHANISM IN THOUGHT AND MORALS. By Oliver Wendell Holmes.
Second edition. London: Sampson Low, Son, and Marston. 1871.

THIS Address, delivered by one of the leading thinkers of the United States before the Phi Beta Kappa Society, is well worthy of perusal. Sparkling with quaint humour, and illustrated by ingenious similes, it is philosophic in the highest sense, treating of thought and morals in their automatic aspect from a higher standpoint than that too often occupied by the man of science. In the following extract we have the key-note of Mr. Holmes' philosophy: "The attitude of modern Science is erect, her aspect serene, her determination inexorable, her onward movement unflinching; because she believes herself, in the order of Providence, the true successor of the men of old, who brought down the light of heaven to men. She has reclaimed astronomy and cosmogony, and is already laying a firm hand on anthropology, over which another battle must be fought, with the usual result, to come sooner or later." Let anthropologists be imbued with Mr. Holmes' spirit and they cannot fail to succeed in this conflict, which is the necessary accompaniment of the onward progress in the path of truth. There are many suggestive ideas scattered throughout this little work, which will commend itself to all readers.

THE LATE MR. WILLIAM PINKERTON, F.S.A.—We are sorry to have to record the death of this gentleman, which took place on the 30th July, 1871. Mr. Pinkerton was a devoted anthropologist, and the following extract from *Notes and Queries* shows the general estimation in which he was held:—"Many of our old friends must have missed for some time from our pages, and missed with regret, the once familiar signature of William Pinkerton. That silence was caused by illness—an illness which, we are grieved to say, terminated fatally on Sunday last. To those who remember how varied were the subjects which were treated by Mr. Pinkerton, it is superfluous to state that he was a gentleman of wide and discursive reading; and if his style was sometimes a little trenchant, it was a venial fault, springing as it did from his earnest love of truth, and a warmth of heart which endeared him to all who had the advantage of his friendship. Mr. Pinkerton, who was born at Belfast on the 22nd of January, 1811, was an extensive contributor to many of our chief periodicals, as well as to the *Ulster and Kilkenny Archaeological Journals*, the *Anthropological Review*, and the "Book of Days"; and he printed privately in 1870 a "History of Hounslow Chapel", &c. He had for many years been engaged on a history of his native place, still in manuscript. His remains will be interred to-day (August 5) in the cemetery at Kensal Green."

KIMMERIANS AND ATLANTEANS.—In reference to a note by Mr. J. F. Campbell, which appeared in the last number of the JOURNAL, and in which that gentleman seemed to consider the dark-eyed Atlanteans, or Iberians, to be a specially dangerous and disorderly kind of people, I would remark: 1. That it is universally allowed that the dark-eyed peoples of Europe are the least addicted to drunkenness. 2. That statistics conclusively prove them to be the most chaste (see my paper on "Peoples inhabiting the British Isles," read before the Anthropological Society, December 6th, 1870). 3. That those who are the least inclined to drunkenness and debauchery are generally the most orderly members of society in other ways; and that generalisations to the contrary, unsupported by statistics, are hardly to be trusted. 4. That it is not surprising that Mr. Campbell found the dark-eyed people in great numbers in a mob in Hyde Park, seeing that Dr. Beddoe's statistical researches clearly show that the dark-eyed people form an unusually large proportion of the population of London generally. 5. I do not know whether I am quite correct in understanding Mr. Campbell to trace some connection between the Atlantean and Negro races—if so, I should be glad to know whether there can be any connection between the Australians, the Negroes, and the Esquimaux, seeing that various anthropological authorities have traced a connection between each of these races and the unfortunate Atlanteans or Iberians of Europe.—A. L. LEWIS.

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE
OF
GREAT BRITAIN AND IRELAND.

Nov. 6TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read, and confirmed.

The following new members were announced: The Rev. A. CLIFFORD BELL, M.A., Chaplain, St. Andrew's Church, Bangalore; J. W. BREEKS, Esq., Madras Civil Service, Commissioner of the Neilgherry Hills, Madras; EDWARD FORSTER BROEKMANN, Esq., M.R.C.S.Eng., L.R.C.P., Professor of Pathology, Medical College, and Resident Surgeon, General Hospital, Madras; EUGENE A. CONWELL, Esq., LL.D., M.R.I.A., Trim, Ireland; Captain DAVID HOPKINS, F.R.G.S., Her Britannic Majesty's Acting Consul, Fernando Po, Bonny River, West Africa; J. BRIDGES LEE, Esq., B.A., F.G.S., F.C.S., F.Z.S., etc., of Sydney Sussex College, Cambridge, and 63, Cornwall Road, Bayswater; the Rev. JAMES McCANN, D.D., 18, Shaftesbury Terrace, Glasgow; P. NATH. MOOKERGEE, Esq., L.R.C.P. Edin., Assistant-Surgeon, Madras Medical Service, Officer of Lock Hospitals, Madras; JOHN S. PHENÉ, Esq., F.G.S., etc., 5, Carlton Terrace, Oakley Street, S.W.; General MEREDITH REED, Consul-General of the United States of America at Paris, M.R.I.A.; FREDERICK MARTYN RICKARD, Esq., M.R.C.S.Eng., L.S.A., Assistant-Surgeon, Medical College, Madras.

MORTON ALLPORT, Esq., F.R.S., of Hobart Town, was elected Corresponding Member for Tasmania.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the ACADEMY.—Proceedings of the Academy of Natural Sciences of Philadelphia.

- From the AUTHOR.—Smoking: when Injurious, when Innocuous, when Beneficial. By Dr. J. C. Murray.
- From F. W. RUDLER, Esq.—Catalogue of Specimens in the Museum of Practical Geology, illustrative of the Composition and Manufacture of British Pottery and Porcelain.
- From the SOCIETY.—Mittheilungen der Anthropologischen Gesellschaft in Wien, No. 10.
- From the SOCIETY.—Journal of the Asiatic Society of Bengal, part ii, No. 1. Proceedings do., Nos. 3, 4, and 5, 1871.
- From the ASSOCIATION.—Proceedings of the Geologists' Association for April 1871.
- From the SOCIETY.—Proceedings of the Society of Antiquaries of London, vol. v, No. 1.
- From the AUTHOR.—Lo Studio dell' Antropologia e dell' Etnologia in Italia, 1870. By G. A. Garbiglietti.
- From the ASSOCIATION.—Journal of the Royal Historical and Archaeological Association of Ireland, No. 6.
- From the INSTITUTION.—Journal of the Royal United Service Institution, vol. xv, Nos. 63 and 64.
- From the SOCIETY.—Journal of the Royal Geographical Society, vol. xl, 1870. Proceedings do., vol. xv, Nos. 2 and 3, 1871.
- From the IMPERIAL ACADEMY OF SCIENCES, VIENNA.—Sitzungsberichte Philos.-Histor. Classe—63 Band, Heft 1, 2, 3; 64 Band, Heft 1, 2, 3; 65 Band, Heft 1, 2, 3, 4; 66 Band, Heft 1. Math.-Naturw. Classe—1869, 1, 2 Abtheil, Heft 8, 9, 10; 1870, 1, 2 Abtheil, Heft 1; 1870, 1, 2 Abtheil, Heft 2-3, 4, 5, 6, 7, 8. Register, Heft 6. Almanach, 1870.
- From the GOVERNMENT OF INDIA.—Abstract of the Reports of Surveys and of other Geographical Operations in India, 1869-70.
- From the EDITOR.—The Food Journal, August and October 1871.
- From the SOCIETY.—Verhandlungen der k. k. Geologischen Reichsanstalt, Nos. 1 and 7, 1871; Jahrbuch do., Jan., Feb., March, April, May, and June, 1871; Zur Erinnerung an Wilhelm Haidinger, von F. R. v. Haner; Die Cephalopoden, Fauna der Oolithe von Balin Bei Krakau, by Dr. M. Neumayr; Die Reptilienfauna der Gosan-formation in der Neuen Welt Die Wiener-neustadt, by Dr. Emanuel Bungel.
- From M. G. E. V. SCHNEEVOSGT.—Verslag over den staat der Geschiedten voor Kraantezinurg en in de Jaren 1864-5-6-7-8.
- From the ROYAL ACADEMY OF BELGIUM.—Mémoires couronnés et des savants étrangers (4to), toms 35, 36 et 38; Bulletins do., 2e série, toms 29, 30; Annuaire, do., 1871.
- From the AUTHOR.—Anthropométrie, ou Mésure des différentes Facultés de l'Homme, 1870. By Ad. Quetelet.
- From M. L. A. QUETELET.—Phénomènes Périodiques pendant l'année 1869.
- From the SOCIETY.—Proceedings of the Royal Society, No. 129.
- From the SOCIETY.—Proceedings of the Philosophical Society of Glasgow, 1870-1.

- From the ASSOCIATION.—Report of the British Association, Liverpool, 1870.
- From the AUTHOR.—The Hill Ranges of Southern India. Parts 2 and 3. By Dr. John Shortt.
- From the INSTITUTE.—Transactions and Proceedings of the New Zealand Institute. Vol. 3. 1870.
- From the INSTITUTION.—Report of the Smithsonian Institution, 1869. Smithsonian Contribution to Knowledge, vol. 17.
- From the BOARD.—Annual Report of the Indian Commissioners, 1870.
- From the ACADEMY.—Proceedings of the American Academy of Arts and Sciences.
- From the SOCIETY.—Memoirs of the Boston Society of Natural History, vol. 2, part 1. Proceedings do., sigs. 15-23.
- From the MUSEUM.—Bulletin of the Museum of Comparative Zoology at Harvard College, Cambridge, U.S. Vol. 2, Nos. 1, 2, 3.
- From the SOCIETY.—Proceedings of the American Philosophical Society, Nos. 83-85. Transactions do. (4to), part 1, 1870.
- From the INSTITUTE.—Proceedings of the Essex Institute, vol. 6, part 2. Bulletin do, vol. 2, 1870.
- From the ACADEMY.—Annual Report of the Peabody Academy of Science, 1869-70.
- From the EDITOR.—The American Census, 1869. By J. A. Garfield.
- From the DRESDEN ACADEMY.—Verhandlungen der Kaiserlichen Leopoldino Carolinischen Deutschen Akademie der Naturforscher. Vol. 37, 1870.
- From the EDITOR.—Journal des Savants, Juillet 1871. Paris.
- From the SOCIETY.—Proceedings of the Literary and Philosophical Society of Liverpool. Nos. 23 and 24.
- From the SOCIETY.—Bulletin de la Société d'Anthropologie de Paris, March to September 1870.
- From the INSTITUTE.—The Canadian Journal, August 1871.
- From Professor STEENSTRUP.—Oversigt over det Kongelige Danske Videnskabernes Selskabs. No. 3, 1870, and No. 1, 1871.
- From the AUTHOR.—An Essay on the Feudal Tenures. By Captain Bedford Pim, R.N.
- From SIR JOHN LUBBOCK, Bart., M.P.—Recherches sur l'Origine des Kabyles, 1871. L'Homme pendant les Ages de la Pierre dans les Environs de Dinant-sur-Meuse, by M. E. Dupont.
- From CHARLES DARWIN, Esq., M.A.—Darwinism: being an Examination of Mr. St. George Mivart's Genesis of Species. By C. Wright.
- From the AUTHOR.—Man, contemplated Physically, Morally, Intellectually, and Spiritually. No. 1. By J. W. Jackson, Esq.
- From the EDITOR.—American Eclectic Medical Review, Nos. 1, 2, and 3, 1870.
- From J. BURNS, Esq.—Human Nature, October 1871.
- From the EDITORS.—Matériaux pour l'Histoire Primitive et Naturelle de l'Homme, Nos. 7, 8, 9.
- From the EDITOR.—Journal of Psychological Medicine, vol. 5, No. 3.

- From the SOCIETY.—Transactions and Proceedings of the Royal Society of Victoria, vol. 9, part 2.
- From the AUTHOR.—Memoirs on Remains of Ancient Dwellings in Holyhead Islands. By the Hon. Wm. Owen Stanley, M.P.
- From the HON. COMMISSIONER OF PATENTS.—Report of the United States Patent Office for the year 1868, in 4 vols.
- From the GOVERNMENT OF INDIA.—Report on the Meteorology of the Punjab. By A. Neil, M.R.C.S.L.
- From the COMPANY.—Mortality Experience of the Prudential Assurance Company. By Henry Harben, Esq.

FOR THE MUSEUM.

Three Skulls of the Osyéba Tribe, from Banoko, West Africa, presented by R. B. N. Walker, Esq., Loc. Sec. Anth. Inst.

The DIRECTOR submitted the following Report:

REPORT *on* ANTHROPOLOGY *at the* MEETING *of the* BRITISH ASSOCIATION *for the* ADVANCEMENT *of* SCIENCE *for* 1871, *at* EDINBURGH.

1. THE Forty-first Meeting of the British Association was held at Edinburgh in August last. The General Committee assembled for the first time on Wednesday, August 2nd, when, after the election of officers of Sections, and the consideration of other questions not immediately affecting the interests of Anthropology, Dr. Richard King was called on to speak to his motion for the formation of a separate Sub-section of Anthropology. In so doing, Dr. King gave many strong reasons why such a course should be adopted; but it was ruled that, owing to the regulation of the Association which requires that all propositions affecting the constitution or fundamental rules of sections should be referred to the Committee of Recommendations, the motion could not be put to the meeting. It was, however, sent to the Committee of Recommendations for consideration. Before proceeding otherwise with this Report, it will be as well to show the result of this renewed effort to obtain a separate sub-section for our science.

2. As previously, Anthropology was at Edinburgh constituted a department of the Biological Section; and, as soon as it was properly formed, the members of the Anthropological Subcommittee discussed the probable fate of Dr. King's motion. Finally, it was determined to obtain, if possible, the countenance of the Committee of the Biological Section to such a proposal as, it was thought, might be made with a reasonable prospect of its being accepted. For this end, Professor Turner, the President of the Anthropological Department, at a meeting of the Committee of the Biological Section, moved, and Dr. Reddick se-

conded, a resolution recommending—"That, in future, the division of the Section of Biology into three departments of Anatomy and Physiology, Anthropology, and Zoology and Botany, shall be recognised in the programme of the Association meetings; that the president, two vice-presidents, and at least three secretaries, shall be appointed; and that the vice-presidents and secretaries, who shall take charge of the organisation of the several departments, shall be designated respectively before the publication of each programme." This resolution was unanimously accepted by the Committee of the Biological Section, and at once forwarded to the Committee of Recommendations. What took place at this Committee cannot, of course, be known; but they finally reported that they could not recommend the adoption of Dr. King's motion, on the ground that, logically, it would be impossible to separate Anthropology from Biology, but that they strongly recommended that the resolution passed by the Biological Committee should be acted on. This report was itself unanimously adopted by the General Committee; the result of this decision being that, although Anthropology is still associated with Anatomy, Physiology, Zoology, and Botany, as simple departments of a section, yet it is now permanently constituted a separate department, and the special appointment of officers for it, which will take place in future, leaves little, practically, to be desired. Probably the union of the two old societies had some influence in bringing about this result.

3. The Department of Anthropology, under the able presidency of Professor W. Turner, one of the Corresponding Members of the Institute, held six meetings, at which the following papers were read:

GENERAL ANTHROPOLOGY.

1. Address by Professor W. Turner.
2. The Comparative Longevity of Animals of different Species and of Man, and the probable Causes which mainly conduce to promote this Difference. By George Harris, F.S.A.
3. The Hereditary Transmission of Endowments and Qualities of different kinds. By George Harris, F.S.A.
4. On Degeneration of Race in Britain. By J. Beddoe, M.D.
5. Man and the Ape. By C. Staniland Wake, Dir. A.I.
6. On Centenarian Longevity. By Sir Duncan Gibb, Bart., M.D.
7. Note on the Fat Woman now exhibiting in London. By Sir Duncan Gibb, Bart., M.D.
8. The Anthropology of Auguste Comte. By J. Kaines, M.A.I.
9. The Atlantean Race of Western Europe. By J. W. Jackson, M.A.I.
10. On Skulls presenting Sagittal Synostosis. By Prof. Struthers.

11. On an Expedition for the Special Investigation of the Hebrides and West Highlands, in search for Evidences of Ancient Serpent Worship. By John S. Phené, F.G.S.

12. The Origin of the Moral Sense. By Dr. James McCann.

ETHNOLOGY.

13. Le Sette Comuni. By Dr. Charnock, F.S.A.

14. The Physical and Philological Characteristics of the Wallons. By Dr. Charnock and Dr. C. Carter Blake.

15. The Lapps. By Dr. Richard King.

16. A Gleam of the Saxon in the Weald. By Walter C. Dendy, M.A.I.

17. On the Inhabitants of the Merse. By J. Beddoe, M.D.

18. On certain points concerning the Origin and Relations of the Basque Race. By the Rev. W. Webster; read, supplemented, and illustrated, by P. W. Stuart Menteth, Membre de la Société Ramond.

PREHISTORIC ARCHÆOLOGY.

19. On the Order of Succession of the several Stone Implement Periods in England. By J. W. Flower, F.G.S.

20. On the Classification of the Palæolithic Age by means of the Mammalia. By W. Boyd Dawkins, M.A., F.R.S.

21. Antiquity of the Domestic Animals. By W. Boyd Dawkins, M.A., F.R.S.

22. Some Indications of the Manners and Customs of the Early Inhabitants of Britain, deduced from the Remains of their Towns and Villages. By John S. Phené, F.G.S.

23. On Human and Animal Bones and Flints from a Cave at Oban, Argyllshire. By Professor W. Turner, C.M.A.I.

24. On Implements found in King Arthur's Cave, near Whitchurch. By Rev. W. S. Symonds, M.A., F.G.S.

25. On Bones and Flints found in the Caves at Mentone, and in the adjacent Railway Cutting. By M. Moggridge.

26. Discovery of Flint Implements in Egypt, at Mount Sinai, at Galgala, and in Joshua's Tomb. By l'Abbé Richard.

27. On Megalithic Circles. By Lieut.-Col. Forbes Leslie.

28. Ancient Hieroglyphic Sculptures. By Lieut.-Col. Forbes Leslie.

29. On an Inscribed Stone at Newhaggard, in the County of Meath. By Eugene A. Conwell, LL.D.

30. Ancient Modes of Sepulture in the Orkneys. By George Petrie.

31. Note on a Cross traced upon a Hill at Cringletie, near Peebles. By James Wolfe Murray.

32. Is the first Stone Age of Lyell and Lubbock as yet at all proven? Is it anything beyond a myth? By W. D. Michell.

4. It is impossible, within the limits of this Report, to give even an abstract of the contents of each of these papers. It is hoped, however, that many of them will be brought before the Anthropological Institute during the present session. All the

papers were of interest, and some of them were of considerable value. Those relating to the archæological division of anthropology created considerable discussion, more especially that by Mr. Flower, on "The Order of Succession of the several Stone Implement Periods in England", which need not, however, be further referred to, as it will be read before the Institute at an early meeting. The question of the antiquity of man was also raised by the papers of Professor W. Turner, Mr. Moggridge, and the Rev. W. S. Symonds. The investigations of Mr. Symonds are the most instructive, as they lead to the conclusion that man was living in ancient Herefordshire when the waters of the Wye flowed at an altitude of three hundred feet above their present level. Mr. Boyd Dawkins's paper on "The Classification of the Palæolithic Age, by means of the Mammalia", was a criticism of M. Lartet's classification of that period by reference to the associated mammalia, which the author declared cannot be sustained. The two papers read by Lieut.-Colonel Forbes Leslie are worthy of notice. That on "Megalithic Circles" was designed to prove that the larger circles were intended for religious purposes. By the other, Col. Leslie endeavoured to establish that the ancient hieroglyphic sculptures of Scotland were symbols of religious ideas, and that they belonged to two distinct types—the earlier the work of a race that was expelled or subjugated by the Kelts, to whom the later type of sculptures may confidently be assigned.

Among the ethnological papers may be mentioned Dr. Beddoe's account of "The Inhabitants of the Merse", a border district lying along the course of the Tweed. These people are of the Teutonic type, large fair men, with a predominance of light hair, and with heads, somewhat dolichocephalic, of a large size. Dr. Richard King's paper on "The Lapps" gave many particulars of the customs of this race, describing them as being taller than is usually supposed. An interesting sketch of Saxon life and manners was furnished by Mr. Dendy's paper, entitled "A Gleam of the Saxon in the Weald". The joint memoir of Dr. Charnock and Dr. C. Carter Blake, on "The Wallons", deserved a fuller discussion than it received. It described their physical and philological characteristics, showing their Keltic origin. Dr. Charnock has, moreover, done good service in calling attention, in his "Le Sette Comuni", to the little known German communities in North Italy. The most important ethnological memoir, so far at least as its subject is concerned, was undoubtedly that of the Rev. W. Webster, read and supplemented by Mr. Stuart Menteath, on "The Basques". The paper had for its object to show that this people, instead of being darker, are really lighter than any of the peoples around them, the dark Basques

of the coast presenting great admixture of Moresco, or Gipsy, blood. It should be stated, that Mr. Stuart Menteath has presented to the Institute a photograph of a typical Basque, and also a photographic portrait of a Gipsy woman.

Of the remaining papers read in the Anthropological Department, those by Dr. Beddoe, on "The Degeneration of Race in Britain"; by Mr. Harris, on "The Hereditary Transmission of Endowments and Qualities", and on "The Comparative Longevity of Animals and of Man"; and that by Sir Duncan Gibb, on "Centenarian Longevity"—related to somewhat allied subjects. Mr. Harris, in his first named paper, advanced the idea that the human constitution is subject to a sort of flux and reflux, by virtue of which "a particular moral or mental endowment may be growing for generations until it reaches its climax, when it will at once decline." Dr. Beddoe's paper, owing to its practical bearing on our national welfare, was the most important of this series. The author believes that the greater part of the agencies now operating on the physical endowments of the population of Britain tend towards deterioration rather than improvement. Mr. J. W. Jackson's memoir on "The Atlantean Race of Western Europe" supposes that the Turanian element is common to both the Melanic and the Xanthous varieties of man in Western Europe, and that their admixture will furnish the race of the future. The utilitarian view of the origin of the moral sense was severely criticised by Dr. James McCann, in his paper on the origin of that faculty; but little light was thrown by it on this difficult subject. The most lively debates in the Anthropological Department took place on Mr. Wake's paper, entitled "Man and the Ape", and on that by Mr. Kaines, treating of "The Anthropology of Auguste Comte". The former, while admitting that man was derived from a lower animal form, endeavoured to show that it must have been under conditions very different from those supposed by Mr. Darwin's hypothesis. Mr. Kaines' paper had for its aim to establish that the differences which exist between man and animals are of degree and not of kind; and that man's dominion over the animal world is now moral rather than intellectual. Mr. Phené, in an interesting memoir on "Serpent Worship", described certain mounds in Scotland which he has investigated, and which he asserts to closely correspond with the animal mounds of Ohio. One of the most valuable papers read was that by Professor Struthers, on "Sagittal Synostosis of the Skull", illustrated by several crania exhibiting this phenomenon, and showing how great an influence it has over the form of the skull.

5. The meetings of the Anthropological Department were, as usual, well attended. On several occasions, many persons were

not able to find accommodation ; but, finally, the Lecture Hall of the Museum of Science and Art was kindly placed by Prof. Archer at the disposal of the Council of the Association for the use of the Department.

6. At the last meeting of the General Committee of the Association, certain resolutions were adopted, having for their object the formation of organising sectional committees, "for the purpose of obtaining information upon the memoirs and reports likely to be submitted to the sections, and of preparing reports thereon, and in the order in which it is desirable that they should be read, to be presented to the committees of the sections at their first meeting." Under the regulation already referred to, officers will be specially nominated by the Council for the Department of Anthropology, which will, therefore, have its own organising committee. In connection with this subject, attention should be drawn to the circular "Notice to Contributors of Memoirs", which is appended to the new regulations, and of which the following is a copy :

"NOTICE TO CONTRIBUTORS OF MEMOIRS.—Authors are reminded, under an arrangement dating from 1871, that the acceptance of Memoirs, and the days on which they are to be read, are now to a great extent determined by Organising Committees for the several Sections *before the beginning of the Meeting*. It has, therefore, become necessary, in order to give an opportunity to the Committee of doing justice to the several Communications, that each author should prepare an abstract of his Memoir, of a length suitable for insertion in the published Transactions of the Association, and that he should send it, together with the original Memoir, by book-post, on or before addressed thus: 'General Secretaries, British Association, 22, Albemarle Street, London. For Section' If it should be inconvenient to the author that his paper should be read on any particular days, he is requested to send information thereof to the Secretaries in a separate note."

7. It is advisable again to call the attention of the members of the Institute to the regulations passed at the Liverpool meeting of the Association (1870), as to the constitution of the General Committee. The members of this Committee are now divided into two classes—permanent and temporary. The latter includes "presidents for the time being of any scientific societies publishing Transactions, or, in his absence, a delegate representing him." The former class comprises, among others, members of the Association "who, by the publication of works or papers, have furthered the advancement of those objects which are taken into consideration at the sectional meetings of the Association." Persons qualified under this rule are required to send in their claims for the decision of the Council of the Association at least *one month* before the meeting of the Association.

8. The Committee of the Anthropological Department discussed the desirability of asking the Council of the Association for a grant towards the furtherance of some scientific object. It was finally decided to let the matter stand over for further consideration.

9. The President of the Institute was, unfortunately, prevented from attending the meeting of the Association; but the Institute was represented by Professor Huxley and Mr. Harris, two of the Vice-Presidents; by the Treasurer, Mr. Flower; and the Director; and by Dr. Beddoe, Mr. Bohn, Dr. Campbell, Mr. Boyd Dawkins, Mr. Dunn, Colonel Lane Fox, Sir Duncan Gibb, Mr. Kaines, and Dr. King, Members of the Council.

10. The 1872 meeting of the Association is to be held at Brighton, under the presidency of William B. Carpenter, M.D., F.R.S.

C. STANILAND WAKE, *Director*.

The following paper was read:

On the RELATIVE AGES of the STONE IMPLEMENT PERIODS in ENGLAND. By J. W. FLOWER, Esq., F.G.S., Treasurer Anth. Inst.

It is barely twelve years since M. Boucher de Perthes' discoveries of flint implements in the Drift of the Somme Valley were first recognised and verified by Mr. Prestwich, and happily correlated by him and by Mr. Evans with some forgotten discoveries of older date in England. Since then similar researches have been so numerous and so ably conducted, that we are perhaps enabled to form a clearer view than was possible in the first instance, as to the relations and order of succession of the various Stone implement periods in England.

Hitherto what are known as the Drift implements have been usually placed by the most eminent writers on these subjects in the same category, and regarded as of substantially the same age, as those of the Bone caves. Thus, Sir John Lubbock says, that it would appear that prehistoric archæology may be divided into four great epochs, of which he says, "The first is the Drift, when men shared the possession of Europe with the mammoth, the cave bear, the woolly-haired rhinoceros, and other extinct animals"—this, he says, we may call the Palæolithic period; "second, the later, or polished stone age, a period characterised by beautiful weapons and instruments made of flint and other kinds of stone—this we may call the Neolithic period"; and he then goes on to describe what are termed the Bronze and Iron

periods:* and Sir Charles Lyell, in his work on the "Antiquity of Man", while he divides Sir John Lubbock's two stone periods by a vast interval of time, calling them respectively post-pleiocene and recent, makes no marked distinction, either as regards date or other conditions, between the Cave and the Drift periods. Having regard, however, to the present state of our knowledge, it appears to me that this arrangement is hardly sufficient, so far as it relates to England, inasmuch as it places in one group deposits characterised by very different conditions, and probably assignable to distinct epochs.

The grounds upon which I desire to rest this proposition as regards the Drift period may be thus stated, viz., *Archæological*—the difference in character of the implements from all others, and the absence of those products of human skill which are associated with implements of (presumably) later date; *Geological*—the very great differences in the geological conditions under which they are found; and—*Palæontological*—their association with some animal remains which have never yet been found, and the absence of remains which commonly are found, with other stone implements.

The palæontological evidence, being chiefly negative, is necessarily so incomplete and unsatisfactory, that we might well pause before founding any proposition upon it; but if we find that, such as it is, it is confirmed by geological and archæological considerations, we need hardly hesitate to modify the arrangement hitherto adopted, by separating this Drift period by a wide interval from all others, and giving it some more distinctive name than it has yet received.

As regards the archæological, or what may, perhaps, be more properly called the technological, ground, my contention is, that the implements of the Drift are, as a class, different, as well from those of the Bone caves, as from those of later date found in the tumuli; and, in order to show this, I have laid on the table a series collected indifferently from the Somme and the Little Ouse, showing fifteen or sixteen distinct types, and several examples of each, only two or three of which, so far as I have been able to learn, have been found in the Bone caves; a coincidence not at all to be wondered at, when we consider the nature of the stone, and the paucity of the forms into which it can be usefully worked.

If we conclude that the Drift implements are of a different period from the others, it still remains to consider whether they were earlier or later. The palæontological and geological evidence as to this will be presently noticed; but, as regards the technological evidence, I cannot doubt that they were earlier,

* "Prehistoric Times", 2nd edition, p. 2.

notwithstanding the material circumstance that they present a greater variety of form, indicating a greater variety of uses to which they could be put; but the presumption thus arising, that these objects represent a people of a later age, is, I think, rebutted, not only by a consideration of the other conditions already alluded to, but notably by the fact, that there are several other works of art which the caves present, of which no trace has been found in the Drift deposits; the presence of these indicates some advance in the arts of life, and confirms us in the opinion, formed upon other considerations, that the periods in question must have been separated by a considerable interval of time. Of course, I shall not be understood as contending that those Cave objects may not yet be discovered in the Drift; all that I would suggest is, that they have never yet been seen, notwithstanding that for several years diligent search has been made for them, by many persons, in many places.

It is a significant feature in the history of the Drift implements, that they were wrought from stones which had long lain upon the surface, exposed to atmospheric influences. In many instances, they are found partly enveloped in their original chalk crust, usually much worn and battered. Beneath this is often found a discoloration, sometimes to the depth of a quarter of an inch, which is never seen on flints found *in situ*, or newly dug, and which is, undoubtedly, the result of long exposure to the atmosphere; in addition to these two colours, we find occasionally the *patina* of the uncovered surfaces of the stone before the implement was made, and which were not removed in making; also the *patina* exhibited by those surfaces from which fragments of stone were struck in order to shape the implement; and, if we include the original colour of the flint, which is only seen when the stone is broken, we have no less than five distinct tints; and, trivial as this circumstance may appear, each of these marks a distinct epoch in the stone's history, and, to some extent, in the history of the earth and its earliest inhabitants.

Another proof that some of these implements were formed from stones previously lying upon the surface, may be found in the circumstance that they had been previously fractured by means of what is sometimes called internal expansion. This fracture is never found in flints imbedded in the chalk rock; but when lying on the surface, the stone frequently breaks—probably when subjected to some concussion,—into two or more pieces—the fracture taking place usually in the plane of some fossil inclosed in the flint, sometimes no larger than a fish scale.

The questions which arise upon the geological view of the subject can hardly fail to have a most important bearing upon the anthropological, and therefore I find myself obliged to deal with

them in detail, and at some length. If we find good reason for believing that the beds of gravel in which the implements now lie, and from which in all probability they were formed, as well as the considerable masses of gravels and sands which usually overlie them, were transported by agencies no longer in operation; that is to say,—by rivers, or water of whose course no trace remains—flowing from mountains or high lands which have altogether disappeared; and further, that this took place while England formed part of the continent of Europe, we are carried back to a period incalculably remote, and the appearance of men upon the earth may be conjectured to have occurred many thousand years beyond the date usually assigned. We must believe that the makers of these things lived not merely before *the Flood*, but before many, and great floods.

When found, in what I believe should be regarded as their normal or original position, the implements are never seen upon the upper surface, but in that bed of coarse flint gravel which rests upon, or very close to, the surface of the oolite or chalk, or whatever rock happens to be uppermost, no distinct traces of river action, so far as my observation extends, being found *below* them. They are usually covered by a thick bed of compact gravel, often largely mingled with chalk pebbles, and this again is usually capped by considerable masses of sand or loess, the gravel and the loess together often amounting to twenty, and occasionally even thirty feet in thickness. This position of the implements, as Sir Charles Lyell has observed in his description of the Somme Valley, leaves no doubt in the mind of the geologist that their fabrication *preceded* all the reiterated degradation which resulted in the formation of the overlying beds. This feature in the history of these deposits has been observed by several other writers, but the important inferences to be drawn from it seem to have been but little considered.

From the preceding details it will be seen, *first*, that the implements must have been made *before* the beds which now overlie them had been deposited; *and next*, from their composition and character, it is obvious that these overlying beds, as well as the gravels in which the implements occur, must have been water-borne; and, if so, by what kind of water?

It has been hitherto supposed, and indeed it is still supposed by many able writers, that these gravels were transported by existing rivers, by which I mean, waters flowing in or near to present river channels. This opinion, which has been expressed by Sir John Lubbock, in his preface to the translation of Professor Nilsson's work on the "Primitive Inhabitants of Scandinavia," is in conformity with that expressed by Mr. Prestwich in his able paper read before the Royal Society in 1862, in which he attri-

butes the deposit to the time "when our valleys and plains began to receive their inequality levelling deposits of silt and peat, and the modern order of things commenced."

Notwithstanding the weight due to the opinion of this eminent author, it seems to me, so far as the evidence goes (and much additional evidence has been procured since Mr. Prestwich's paper was written), that if we assume, as we may safely do, that no geological changes have occurred since our rivers assumed their present courses, except such as may have resulted from subaerial denudation, and that thus the *relative* levels of the land and rivers and seas have remained the same, it is impossible to attribute the position either of the implement-bearing gravels, or others in which no implements have yet been seen, to the action of existing rivers.

Undoubtedly, the implements are frequently found in, or under, masses of gravel in the vicinity of rivers, but it by no means follows that their transport is to be ascribed to those rivers; their position certainly raises such a presumption, but, nevertheless, it is quite possible, and indeed probable, that the gravel may have preceded the valley, and that both the valley and the gravel may be of older date than the river which now flows through them; it is incredible that, when the present surfaces first became dry land, they should have presented a dead level.*

The orology of a country must always determine its fluvial conditions—the course as well as the volume of river waters must depend upon the position and height of the hills or table-lands from which they flow, and the contours of the districts through which they pass, and, having regard to these considerations, it will be found that implement bearing gravels have now been discovered at heights, and in positions, to which no existing river could have conveyed them. Thus Mr. Evans has described the recent discovery of several implements of the genuine Drift type at Southampton, under five to six feet of flint gravel, two of them at a spot eighty-six feet above high water, and a mile from the river which falls into the Southampton Water at a short distance; and one at a spot more inland, and one hundred and fifty feet above the sea. These instances furnish a strong argument in favour of my proposition. The Itchen must have fallen into the sea long before it could have attained to the height of these gravels, nor indeed would the existing water-shed have furnished a volume of water sufficient to carry the stream to such a height.

Drift gravel and an oval flint implement have also been found

* See on this subject, some very valuable observations in Mr. Godwin-Austen's memoirs on Land Surfaces beneath the Drift, in the "Quarterly Journal of the Geological Society", vol. xi, p. 118, and on Tertiary Deposits on the Sussex Coast, vol. xiii, p. 34.

by Mr. Codrington on the Foreland Cliffs, on the eastern extremity of the Isle of Wight, eighty-five feet above the mean sea-level, and far from any present river, or traces of any ancient river; as Mr. Evans has pointed out, this shows that the country was inhabited before the Isle of Wight was separated from the main land. Many other instances occur of gravel, and implements also, being found at such heights as could not be reached by any river now flowing.*

At Reculver, they come from a small patch of flint gravel on a cliff directly overhanging the sea, about one hundred feet above it, while at Brandon and Lakenheath, in the little Ouse Valley, they are found under similar gravels more than ninety feet above the river, considerably above its source, and more than seventy feet above high water mark at Lynn. At Brandon they are a mile, and at Lakenheath three miles, distant from the river. What is now the river here was most probably an arm of the sea until long after these gravels were deposited; and we know that as late as the year 1600 the tide flowed to the foot of the hill at Brandon, on which the deposit is found.†

It is also a remarkable and significant circumstance, that at these places the deposit of flint implements undulates, so to speak; at Thetford they are twenty feet above the river; at Santon Downham, two miles lower down, forty feet; at Broomhill, three miles lower still, nearly level with it; at Brandon, a mile lower down, ninety feet *above* it, and at Shrub Hill, six miles below Brandon, they are about level with the water. This circumstance seems to militate against the theory of river transport, for if the implements had been carried by the stream they would have followed its course, and those nearest to the source would have been at a higher level than those lower down, whereas the reverse is the case.

At St. Acheul, the gravel is found at the height of from eighty to a hundred and fifty feet above the present water level of the valleys, while along the Somme it is seen at some places at the height of two hundred feet; and when I visited the place, in 1859, with Mr. Prestwich, we were both struck with the absence of any high lands from which the gravels could have been brought, a fact to which I called the attention of the Geological Society, in a paper read before it in June 1859.

At Bethune, in Artois, a very interesting deposit is met with,

* Since this paper was read, Mr. Prestwich has communicated to the Geological Society the finding by himself of a well-formed implement of the Drift type, in a gravel pit at Downton, Wilts, a hundred and fifty feet above the Avon, and a mile and a quarter from it, the gravel being destitute of shells.

† "Quarterly Journal of Geological Society" for 1869. Vol. xxv, p. 449.

for the discovery of which we are indebted to Mr. John Evans; it is situate on some table-land lying nearly equidistant between two small streams and about a mile and a half from each, and a hundred and fifty feet above the sea level, and similar deposits at a considerable distance from any river have now been observed in other localities.

In addition, it is to be borne in mind that the highest hills—those, in fact, that form the summits of the water-sheds in Kent, Essex, Herts, Norfolk, and Surrey—are often found capped by Drift gravels of the same character, as those in which implements have been found; in these cases the absence of implements may reasonably be attributed to the circumstance, that in none of them does the gravel contain stones of sufficient size and quality to allow of their being used for the purpose.

Similar deposits are abundantly found in France. Thus, Sir Charles Lyell, in the "Geological Evidences of the Antiquity of Man", observes "that the general surface of the upland region of the valley of the Somme is covered for miles in every direction by loam or brick earth, about five feet thick, devoid of fossils; and that to the wide extent of this loam the soil of Picardy chiefly owes its great fertility." It is clear that the Somme could not have deposited the loess which now overspreads this extensive province; and it may also be noticed, that this river is posterior in date to the peat beds of later date than the gravel, which were once continuous throughout the valley, and have since been cut through by the river.

For these reasons, then, it would seem that the proposition that these gravels were transported by means of rivers which then ran in the same direction, and drained the same areas as now, can hardly be maintained, since it involves the assumption that those rivers then ran, in some cases, more than a hundred feet above their present level, and several miles from their present course; but this could not have happened, inasmuch as there is no water-shed or catchment basin that could have supplied such a volume of water as would in many, indeed in most, cases have been required; and in several localities the hills are so situate, that before the waters could have attained to the requisite height, they must have overflowed the plains and valleys lying beneath, and have formed a great lake as in the Fen district near Brandon, or they would have found their way to the sea as at Southampton and Reculver. In either case the power of transport to the required height would have been lost.

It may be said, as indeed it has been said, that the high lands, from which it is assumed that these rivers once descended, have been worn away by subaerial denudation, and that thus we find no traces of the ancient source and course of the rivers.



Fig. 1.—FLINT INSTRUMENT FROM ST. ACHEUL.

Ramsay has shown that they are derived from a Permian conglomerate of the New Red Sandstone of Shropshire and Warwickshire,* which, at the nearest point, is two hundred miles west of Brandon. But, whatever their origin, it is certain that neither to the east of Brandon, nor, indeed, elsewhere in the county, is there, or ever was, any formation from which these gravels could have been derived; and, as the river here runs east to west, it is impossible that it should have carried them. Indeed, in the present configuration of the land, no river flowing from the west could have deposited this gravel, inasmuch as, before reaching this eminence, it must have been intercepted and lost in the estuary which is now represented by the great level of the fens. So late as the Anglo-Saxon period, this district was an archipelago, as is shown by the names of the towns and villages—as *Manea*, *Stonea*, *Whittlesea*, *Hilgay*, etc.—indicating islands—and what are now rivers flowing into it, were then, as now, known as *creeks*.

Before leaving this part of the subject, I must notice some phenomena which seem to be in conflict with the views here stated. In some few instances, land and fresh water shells are found in or near to the implement bearing gravel. At Salisbury, St. Acheul, and Menchecourt, they lie above the gravel; at Bedford in it; while at Brandon, Bethune, and many other places, no trace whatever is found of them. In no case, however, I believe, are they found lying undisturbedly beneath gravels which contain flint implements. This circumstance certainly suggests the belief, that the gravels, and the implements with them, may have been carried down by river action; but, even in that case, not necessarily by rivers draining the same areas, and following the same courses as now. On the other hand, it is certain that the implements could not have been made under water: and, from their occurrence in such great quantities, and that in those spots where the stone is well adapted for making them, their presence can hardly be regarded as accidental; while, from the perfect condition of many of them, it is certain that they cannot have been carried far, if at all. The occasional occurrence of shells above them may perhaps be accounted for, by supposing, that, in the long interval that has undoubtedly passed, pools or streams of fresh water may have been formed above the gravel; and that, as regards Bedford, the original deposit may have been broken up and rearranged by the invasion of a river, bearing the shells which are now found with the implements; and this seems the more likely, because that bed alone, of all the English or French true Drift beds, contains remains of reindeer and elk, mingled with those of animals now only met with in warm climates.

* "Quarterly Journal of Geological Society", vol. xi, p. 185.

It cannot be doubted that occasionally flint implements have been found lying above the lowest beds of gravel; a circumstance which may, perhaps, be explained upon the hypothesis, that they have been displaced and carried down by floods from their original position. I confess, however, that the occasional, but rare, occurrence of implements in the loess can hardly be thus accounted for; nor, indeed, can it easily be accounted for in any way, since the loess is the deposit of earth held in suspension in muddy waters. But, however this may have been, the material fact still remains, that the implements usually occur in the very lowest gravel stratum, and sometimes even on the surface of the older rock, and that this bed appears to be separated both geologically and palæontologically from the surface, as well as from the caves which are upon the surface, by an interval of such duration that it seems hardly credible that the human race should have lived through it, and left no other traces of their presence than these rude implements.

Upon the whole, the argument as to fluvial agency may be thus stated. If the contours of the surface were the same, or *relatively* the same, as at present, then the existing rivers could not have carried these gravels to the places they now occupy. If, however, the contours were not the same, or *relatively* the same, as now, then the rivers which carried them—if indeed they *were* carried by rivers—did not flow in the same course, or drain the same areas as they now do, and all traces of them have now been effaced; or, if we exclude fluvial agency altogether, nothing is left but to adopt the views held by the French geologists, as well as by Dr. Buckland and Mr. Greenough, that these superficial drifts are attributable to some kind of sudden but violent deluge, either fresh-water or marine, of short duration; and this seems the more probable, when we find that the compact beds of gravel, often fifteen or twenty feet in thickness, which overlie extensive districts in the south-east of England, are entirely destitute both of marine and fresh-water shells.

I am aware that this opinion is not now held by English geologists generally, but perhaps it has been rejected with hardly sufficient consideration. Sir Roderick Murchison, in a paper on "The Flint Drift of the South-east of England", read before the Geological Society in May 1851, expressed his belief that the mammalian flint and chalk detritus was accumulated *tumultuously*, and could not be attributed to the ordinary long continued action of water; and Mr. Prestwich, in his paper on "The Sangatte Drift" (a somewhat similar deposit), stated his opinion that the action which led to its accumulation was "sudden, powerful, tumultuous, not of long continuance, and suddenly arrested". These terms, which exactly describe diluvial as distinguished

from fluvial agency, are quite applicable to the condition and character of the Drift implement-bearing beds.

However, in either or any view of the case, it is clear that the date of these implements, having regard to geological conditions, is carried back to a period incalculably removed from that of any other works of human skill.

It is a remarkable circumstance, in relation to these deposits, that they occur only within a comparatively limited area. No true Drift implement has, I believe, ever been found in countries lying north of Great Britain; nor in Great Britain have they been found to the north-west of a line drawn from the Severn to the Wash, in Norfolk—a distance of about two hundred miles, and in the direct line of the Lias escarpment.

Was the country north-west of this line at this time submerged, or was it uninhabited, or were the people provided with implements of some other material and workmanship? The first rude approach to civilisation would be marked then, as now, by the use of stone implements; and, as flint affords the best material, it seems probable that the chalk districts, in which flint abounds, would be the first in which they would be used. Yet, while Yorkshire and Lincolnshire have chalk flint in abundance, no Drift-implement has ever been found north of the Wash. But still it is one of the many mysteries with which the subject is surrounded, that we find no traces of any export of these implements to places in which the native rock was too soft for use, or too hard to be wrought.

It is worthy of remark, that the line of demarcation between the Drift-implement districts and those destitute of them, nearly corresponds with the line which divides the boulder clay districts from those destitute of boulder clay, as shown in the map in Sir C. Lyell's work before referred to.* Both start from the estuary of the Severn, but, while the latter is drawn to the mouth of the Thames, the former extends northerly to the mouth of the Great Ouse, including all East Anglia. May it not be, that this district had emerged from the glacial sea, and, together with the region lying to the south, was inhabited by the makers of these flint tools, while the country lying to the north-west was either still submerged, or covered with ice and snow.

It remains to notice another circumstance indicative of the extreme antiquity of these flint implement beds. In the valley of the Somme, as well as in that of the Ouse, they are succeeded by a bed of peat, varying from thirty feet to a few inches in thickness, according as the under surface rises or falls; and this again overlies the remains of extensive woods of hazel and alder; and probably it was from the obstructed drain-

* "Antiquity of Man," p. 276.

age of these that the peat originated. In England, as in France, this peat contains the remains of a fauna entirely distinct from that of the Drift gravel. The beds in the Somme valley have been fully described by Sir Charles Lyell; but he does not seem to have been aware that precisely similar deposits were found in West Norfolk.

M. Boucher de Perthes estimated the rate of growth of this peat at three centimètres in one hundred years; at which rate many thousand years would be needed to produce the thickness of thirty feet; but, although we may well hesitate before accepting this calculation, we may be certain that a very extended period would be required for the process, and we may be equally assured that it occurred subsequently to the fabrication of these objects.

The argument as to the remote antiquity of man, as shown by these deposits, does not stop here. The chalk cliffs which are now seen on either side the Channel were undoubtedly at one time continuous; and it seems equally certain that the beds of coarse flint gravel which now in so many places lie directly upon the chalk in both countries, and in which the implements are chiefly found, were also continuous, and that thus, before the separation, both countries were inhabited by men who used the implements. Many reasons conduce to this belief. Taking St. Acheul in France, and Bedford, Brandon, and Salisbury, in England, as typical examples, we find that in both countries the implements are substantially of the same style of workmanship, associated with remains of the same extinct mammalia, and formed from precisely similar materials, found in beds of coarse quaternary gravels of the same mineral character, which rest upon the surface of the older rocks; and these, again, in both countries, are overlaid by other masses of sand and lighter gravel, and then by thick beds of loess or brick earth. These conditions seem only reconcilable with the theory that at this date the countries were united; for otherwise we must believe, that, although separated by an arm of the sea of considerable dimensions, the same geological and palæontological conditions and changes prevailed in both countries simultaneously, and that during a period extending possibly over many thousand of years; and that thus England presented, not only an exact counterpart of France in these particulars, but also in the fashion and material of its stone weapons, the date at which they were fabricated, and the causes which led to their being buried where we now find them. It is not impossible that such a series of remarkable coincidences should have taken place, but it is in the highest degree improbable.

The condition of the peat beds already alluded to affords also

a conclusive reason for attributing the separation of England from France to a comparatively recent period. In these beds, neither the Drift implements, nor the animal remains usually found with them, are ever seen. The elephant and rhinoceros and the *Bos urus* of the Drift, as well as the reindeer and hyæna of the Caves, have now entirely disappeared; and are replaced by the beaver, the wild boar, the red deer, the roe, and *Bos longifrons*. From this resemblance, or rather identity, of the fauna of the English Peat period, both in what it wants and what it has, with that of France, we may conclude that the severance did not take place until long after the formation of the peat, and *à fortiori* until very much longer after both the Drift and the Cave periods; for we must believe that the animals of the Peat period lived when they could pass freely from one part to another of what was then the continent. M. d'Archiac was of opinion that the separation took place *after* the deposit of the flint gravel (*cailloux roulés diluviens*), and *before* that of the loess;* but he does not seem to have been aware of the similarity of the loess and the peat in both countries; and his opinion, in this respect, is in effect opposed to that of the late Professor Edward Forbes, who inferred the comparatively recent date of the separation chiefly from the similarity of the flora; and, if his view be accepted, as it generally has been, we must believe that the date of the separation was long subsequent to that of the making of flint implements, since they are all far below any stratum from which the flora in question could have proceeded.

It is usually supposed, that the makers of the implements were contemporary with the mammalia, with whose remains they are often associated. I shall not venture to assert that we have any direct evidence to the contrary; but the evidence in support of this proposition seems hardly sufficient. The late Dr. Buckland long since expressed his opinion, that for a long succession of years the elephant, rhinoceros, and hippopotamus, inhabited England in the period immediately preceding the formation of the diluvial gravel; and, if so, they must have preceded the period when implements were formed from stone taken from that gravel.

In marine deposits, the sediments of deep, and probably quiet seas, juxtaposition, if it does not prove contemporaneity, furnishes a strong presumption in its favour, but this is not so with superficial deposits, which bear unmistakeable traces of violent, and often repeated, changes and displacements. The implement-bearing beds often, indeed almost always, contain fragments and fossils of liassic, cretaceous, and tertiary rocks, and yet no one

* "Bulletin de la Société Géologique de France", 1st series, vol. x, p. 220.

would think of attributing *them* to the Drift-implement period on account of their juxtaposition only; why then should we, on account only of juxtaposition, regard the implements as contemporary with the mammalia of the Drift?

We have already seen, that before the implements were made, it is probable that the gravel existed in the condition in which we now find it; it was evidently brought from some distance to its present position; and indeed Mr. Prestwich in his first paper stated that he considered the Somme Valley gravel might have been furnished by some older gravel beds; and if so, we can hardly doubt that the teeth and fragments of bone which this gravel now contains were brought to their present position in and with that older gravel. From their broken and rolled condition it is evident that they must have travelled for some distance.

If for the reasons thus given, we find it difficult to accept the commonly received opinion, that the men of the Drift-implement period were contemporary with the animals with whose remains the implements are found, it is equally difficult to believe that they were contemporary with a far larger number of animals, I mean those of the Bone caves, with whose remains the implements of the type in question, with the exception already noticed, never are found.

While the palæontological evidence as to the superior antiquity of the Drift implement beds as compared with the Caves is not so strong as that derived from other considerations, and if it stood alone would be of little or no value, still as far as it goes it is consistent with other phenomena, and thus each branch of evidence tends to strengthen the other.

The only Mammalian remains obtained from the undisturbed Drift of the Somme, as stated in Mr. Prestwich's memoir read before the Royal Society, are as follows: *Bos primigenius*, *Cervus Somonensis*, *Elephas antiquus* and *primigenius*, *Equus*, *Hippopotamus*, and *Rhinoceros*—in all six genera and seven species. All of these have, I believe, been since found in one or other of the Drift beds of Norfolk, Suffolk, Beds, and Wilts; with the addition of the reindeer at Bedford and Salisbury, and the elk at Bedford; but, as it is hardly probable that the elk and reindeer were contemporary in the same country with the elephants and hippopotami, they may be excluded from the comparison. Besides these, however, there have been found at Salisbury, *Vulpes*, *Leo Capreolus*, *Sus*, *Lemmus*, *Lepus*, and *Spermophilus*; but these being, I believe, all found only in the brick earth lying above the gravel, and being thus of presumably a later date, I have not taken them into account as of the Drift implement period.

With these exceptions, we find in all these beds so close a resemblance in palæontological and geological conditions, that it is

impossible to regard them otherwise than as representing one distinct and well marked period.

Now, if we adopt, for the purposes of comparison, the table of Cave deposits contained in Mr. Boyd Dawkins' memoir on the Distribution of the British Post-glacial Mammals,* restricting ourselves to the cases of Wokey Hole, Brixham, Gower, and Kent's Hole, which may be taken as fairly representing the Cave series, we shall arrive at the following results. In the Drift near Bedford, which seems to comprise the mammalian remains of all the other beds, we find but six genera and nine species, all of which seem to have survived until the Cave period; while, in the four caves to which I have alluded, we find no less than twenty-one species (and in one cave twenty-seven), of which only nine occur in the Drift, comprising, amongst others, the important forms of hyæna, fox, wolf, bear, machairodus, badger, lion, elk, and hare, and thus exhibiting the first appearance of carnivorous animals amongst the post-glacial mammals of which we have any evidence; and upon these data, judging, or rather conjecturing, from all known analogies, as to the time that would have been requisite for the introduction of so many new species, these additions to the fauna can only properly be attributed to climatal and other changes, for which vast intervals of time must be allowed. It cannot be doubted that the fabrication of the implements preceded the reiterated denudation which produced the diluvium of the Somme, and the English deposits come within precisely the same category. These reiterated denudations could only have been accomplished by changes, extending over very prolonged periods, and thus ample time would be allowed not only for the disappearance of the race of men who used the Drift implements, and for their replacement by the men of the Caves who seem to have lived upon the surface as now seen, but also for the appearance of so many new species of other animals.

Such, then, being the evidence derived from geological and palæontological considerations as to the interval separating the Drift from the Cave deposits, I pass on to the archæological or technological evidence. I have already pointed out that, with few exceptions, which, having regard to the material and the paucity of forms into which it could be made, seem by no means conclusive as indicating contemporaneity, the implements of the true Drift type do not resemble those found in caves, it remains to show that many of the implements found in the caves have never been met with in the Drift.

The principal English caves in which works of art have been found are those of Kent's Hole, Wokey Hole, Brixham, and

* "Quarterly Journal of the Geological Society, 1859, vol. xxv, p. 192.

Gower ; and, as I have taken these as typical of the *Cave fauna*, it is only proper to take them as representing the *Cave implement period*.

Sir John Lubbock describes the contents of the *Bone-caves*, in general terms, as consisting of flakes, simple and worked, scrapers, awls, cores, lance-heads, cutters, hammers, and mortar-heads—a description which, although it does not comprise all the *Cave objects*, agrees, in the main, with that given by other authors. But, while not one of these forms is ever found in the *Drift*, every one of them is met with, somewhere or other, upon the surface, and they thus overlie and succeed the great beds of *Drift gravels and sands*, already alluded to. I have myself procured from warrens and fields in *West Norfolk*, large numbers of slender flint flakes and scrapers and other objects, exactly corresponding, in form and material, with those found in *French and English Bone-caves*.

It appears, then, that, with the exception before alluded to, the works of art found in the *Bone-caves* in *England* differ from those found in the *Drift*. The same differences are observable in *France* ; and it seems, therefore, reasonable to conclude that they were, in both countries, the work of different races of men, and, when regard is had also to the difference in geological and palæontological conditions, to a race living at a very much later period.

I proceed now to consider the stone implements of later, and comparatively recent date, which may be divided into two principal groups—the unpolished and the polished. Each of these seems to mark a distinct epoch in the history of the earlier races of mankind, and each of them is clearly distinguishable, as well from the *Cave period* as from each other, by its association with other works of art or other animal remains. The geological evidence, it is true, is here wanting, but that derived from palæontology is irresistible.

The unpolished flint and stone implements of this order comprise javelins, scrapers, knives, discs, and implements of lanceolate forms, arrow-heads, flakes, and several other articles of which the use is now unknown. These are often found lying on the surface, especially in chalk districts, and they very often occur in barrows or *tumuli*, near the remains of those who, when living, probably used them, and they were perhaps so placed by the survivors, under the belief that they might be available in another state of existence.

These objects have been usually attributed to the *Neolithic* or *Polished Stone age*, and are also regarded as having preceded that of *Bronze*: an arrangement, however, which seems to me hardly maintainable, at least as regards *England*. With the ex-

ception of certain axe-hammers of polished stone, which, judging from their very superior workmanship, and the nature of the stone, were in all probability imported from abroad, the stone implements found in the *tumuli* are almost invariably of very rude and coarse workmanship,—much inferior to those of the Drift, and are never ground or polished; and, so far from having preceded the use of bronze, they are constantly found in the same graves with daggers, and other objects formed from that metal.

There can be no doubt as to their recent date, as compared with the objects already described. Not only are they often associated with the bronze daggers and knives (probably in those instances in which the deceased was of sufficient wealth and importance to possess such weapons), but sometimes with rings, beads, and other ornaments of jet, and bone spears, and, notably, with funeral pottery of various forms, suggesting at least, although not proving, a greater progress in the arts than was possessed by the Cave dwellers.

But far more conclusive proof of a comparatively very recent date is to be found in the character of the animal remains with which they are associated. We no longer meet with the remains of those great carnivores and pachyderms which are so abundant in the Caves; they are succeeded by a fauna almost entirely new, comprising our present domestic animals, the cow, the sheep, the goat, dog, and rabbit.

One remarkable circumstance connected with these forms, particularly the flakes, and cores, and scrapers, is their cosmopolitan character. Objects of this kind, little differing from English and French forms, have now been found in India, Egypt, Arabia, Algeria—in short, in every quarter of the globe, and almost in every country. They occur abundantly in England, throughout those districts in which chalk flint is found, and especially in and near the site of ancient British camps; and they occur also occasionally at a considerable distance from the chalk, from which we may conclude that they were the subjects of some kind of commerce.

It is also to be noticed, as showing the long endurance of certain forms, that just as we have seen that a few of the Drift forms were reproduced with but slight variation in the Cave period, so we find the rude scrapers and flakes of the English Bone caves, as well as the cores and flakes found in the caves of the Dordogne, reproduced in the barrows of Wilts and Yorkshire and Derbyshire. This apparent overlapping may perhaps be accounted for by the fact, that the character of the flint, and its peculiar fracture, allowed of but little variety in the form of the articles made from it, and that thus, to a certain extent,

every workman must have imitated the work of his predecessor; and, possibly, the men of the later period may have imitated some of the more ancient forms which came by accident under their notice.

It only remains to say a few words as to the polished stone implements known as Celts, so frequently found on the surface and in peat bogs, and occasionally in chambered dolmens. We have no means of ascribing a date to them in the sense of chronology, yet we have good reason, as it seems to me, to conclude that they are of far later date than any of the forms already noticed, as they are not unfrequently found in company with superior works of art, and indeed sometimes, although rarely, with Roman coins. They are never associated with the remains of extinct mammalia, as is the case with the Drift and Cave implements; they are of a far more laboured and expensive style of workmanship than those of the barrows, and are very frequently made from stone which is only found at a great distance from England.

Both Canon Greenwell and Dr. Thurnam, who have so long and so successfully occupied themselves with the examination of British *tumuli*, inform me that they have never found a polished celt in any British barrow; and, although two or three instances are mentioned in Sir R. C. Hoare's "Antient Wilts," and one or two others in the late Mr. Bateman's works, yet, as these are the only ones observed in many hundred interments, it seems not improbable that they should be ascribed to secondary interments of a later date.

It has been usual with some continental writers, and indeed with some of our own, following their method, to consider the Bronze age as succeeding to the Neolithic, and as representing a distinct epoch; and there certainly seems to be a kind of symmetry and propriety in such an arrangement, but, so far as our own country is concerned, I do not think it will hold good.

For every polished stone celt found in barrows, there have been found probably thirty or forty objects in bronze; and, indeed, allowing for and excluding the burials of women and children, and the loss or decay in many cases of the bronze, almost every grave of an able-bodied man of the Barrow period probably contained a bronze dagger, usually associated with very coarse flint flakes or stone; and even when bronze is found in dolmens, it is usually associated with polished implements: so that, for these very extended periods, the use of bronze seems to have been coeval with that of polished stone, if it did not, indeed, precede it.

Almost the only polished implements found in the barrows are the stone axe-hammers, and these, as before observed, from

the character of the stone and the great skill found in their workmanship as compared with the flint flakes, were probably imported, and, if so, we should hardly be justified, so far as England is concerned, in entitling the age in which they were used as the *polished* stone period.

The conclusions which I think may be drawn from what is above stated, may be thus summed up. The Drift implements were made and used before this country was separated from France. The gravels in and under which they are found were not transported by any waters flowing in the same channels as the existing rivers, even if transported by fluvial action at all, which is doubtful. That it is by no means certain that the makers of the Drift implements were contemporary with the animals with whose remains the implements are sometimes found. That as the Cave implement period was probably of a later date than that of the Drift, so it was earlier, by a vast interval of time, than that of the *tumuli* or barrows; and this also, in all probability, was far earlier than the Neolithic or Polished stone period. The use of Bronze, being common to both the polished and unpolished Stone implement periods, cannot properly be regarded as constituting a distinct era. Lastly, that for these reasons, the arrangement usually adopted of dividing the Prehistoric Stone period into two—viz., Palæolithic and Neolithic—seems to be insufficient, and as it is inconvenient to multiply terms, I would suggest that the Drift implement period might be known as Palæolithic, that of the Caves might be termed Archaic, and that of the Barrows as Prehistoric, while the Polished Celts might retain the designation of Neolithic. And, so far as England is concerned, it would seem that the term Bronze age or period might, very properly, be abandoned, as the use of it is productive of misapprehension.

DISCUSSION.

Mr. EVANS had not time to say more than that, while thanking Mr. Flower for his paper, he thought that some of its facts were susceptible of correction, and that some of its conclusions could not meet with general acceptance. He was glad that the subject was brought under discussion; the necessity for which was shown by the author, after such opportunities for research and lengthened study, having arrived at results so widely differing from those of other observers.

Colonel A. LANE FOX said that many of the points on which he concurred with the author had been so well expressed in the paper, that it would be superfluous for him to recur to them; and he would, therefore, confine himself to some few points in which he ventured to differ from him. He thought that the author had exaggerated the number of distinct types that were to be found amongst the implements of the Drift, and this had led him to a false inference that they

denoted a comparatively high state of culture ; neither could he concur in thinking that the distinctions between the palæolithic and neolithic types were so marked as the author had represented. Mr. Flower has very truly remarked that the implements of the Drift were formed out of the gravel-stones that were found upon the surface ; we know that these gravel-stones present very great varieties of form, and there is evidence that the workers of them were very much guided in forming their implements by the forms of the stones out of which they made them : out of a long pointed stone they would form a long pointed implement ; and of a round or oval stone they would form a round or oval implement. Owing to the immense variety of the forms produced in this way, it is easy to bring together from distant localities two or three implements exactly resembling each other, and assume that they constitute a distinct type ; but, if we examine the whole of the specimens derived from any one of the localities in which these implements are found, we find that they present every shade of intermediate variety between what Mr. Flower has selected as distinct types, and that there is absolutely no line of demarcation to be drawn between them. In order to determine a distinct type, it should be shown that it is unusually prevalent in a particular locality, or there should be evidence of a distinct design on the part of the fabricator, and something more than a mere variety influenced by the form of the stone. He thought that such distinct types did exist in the Drift, but not in any such number as had been supposed by the author. There was a class of implement, rounded or left in its natural form at the butt-end, and adapted to be held in the hand ; and there was another class of implement chipped to an edge all round, at the base as well as at the sides and point : such an implement was not adapted to be held in the hand, and might very probably have been used in a handle ; if such were the case, it would imply a distinct design on the part of the person who made it. He believed there was no evidence of these two kinds of implements having belonged to different periods of the Drift deposits ; nor, indeed, was there evidence of that with respect to any of the Drift types, but there was sufficient evidence of design to entitle them to be ranked as distinct types. Now the most highly finished of these two types—that which was chipped to an edge at the base as well as at the sides—approached very closely to the form of the celt of the neolithic period, especially the unpolished celt of that period. There was, no doubt, a difference between them : one was probably intended to be used with the pointed end, and the other with the broad end ; but the distinction consisted in a very slight difference of outline, and in the relative position of the thickest part—a very slight improvement as compared with the invention of a handle, if such actually took place during the Drift period. There was, in reality, less difference between the chipped Neolithic celt and the most perfect of the two Drift types he had described than between the two latter ; and, therefore, he thought, no archæological evidence of any vast interval of time between the Drift and the Neolithic periods. Besides which, the

Drift type, as the author had said, had been found in one of the French caves; and the leaf-shaped spear-heads found in the caves were, after all, little more than eliminative, and more highly finished Drift types slightly modified in form. The other relics from the Caves no doubt denoted a progress upon those from the Drift; and the type of the Surface period denoted a still further progress upon the Cave period; but any evidence of these might be of a vast interval of time, or a considerable break in the continuity of civilisation, must, he thought, be geological and palæontological, not archaeological. With respect to the erosion of the valleys, he would not occupy the time of the meeting with any remark of his own, as they would, doubtless, be anxious to hear the President, who had paid so much attention to this subject. He would only say, that his own observations arising from the examination of the deposits in the Thames Valley led him to believe that the large tracts of brick earth, which were found always overlying the gravel to the depth of from six to ten feet, implied a vastly greater extent of water than existed at the present time; it would be impossible for such a thickness of sediment to have been deposited over such large areas by any river of the dimensions of the present one, flowing under the same conditions as at present. Notwithstanding this difference of opinion, he thought that the paper was an exceedingly valuable one; it was most desirable that the current opinions upon those subjects should be criticised from time to time by persons possessing the great experience and abilities of the author of the paper.

Mr. FLOWER, in reply, said that at one time he held the opinion which Colonel Fox had expressed with reference to the variety of forms of the Drift implements; but having since that time procured several hundred specimens from the Little Ouse valley, and having examined also many more, both English and French, he was quite satisfied that the differences in question were designed, and not accidental, and that pieces of stone of the same size and quality were purposely wrought into very different shapes. To show this, it was only necessary to examine the specimens produced, which comprised at least fifteen varieties, of each of which several examples could be produced from his own and other collections.* He did not consider that this greater variety in form indicated any great degree of culture, but simply a distinct period and people; and he quite admitted that it furnished no argument whatever as to the length of the interval (if any) between the Drift and the Cave periods—a question which rested upon very different grounds. And, in reply to some observations made by the President, upon the question of the supposed fluvial transport of the Drift implement gravels, Mr. Flower said he could only repeat, that the gravel found on Brandon Hill could not have been brought from any deposit higher up the river, but must have come from the west—the very opposite direction; and that, even if it were otherwise, and if it were the fact that no foreign rocks were to be found in the valley, that circumstance could not be

* The accompanying plates exhibit the close correspondence between two, out of several, forms which are found both in England and France.

relied upon as conclusive against the theory of diluvial, as distinguished from river action; inasmuch as a deluge might very well be of short duration, and incapable of transporting rocks to any very great distance. Further, that it was by no means improbable that this, like some other valleys, was formed before the river took its present course, if not before the gravel was distributed. As in the case of the Itchen, there were no indications that the river had once flowed at a higher level, and had afterwards deepened its channel, as suggested by the President; on the contrary, the configuration of the surrounding districts was inconsistent with such a belief, inasmuch, as already observed, the water-sheds would not have sufficed for the purpose; and further, the waters would have found an outlet to the low lands, and thence to the sea, long before attaining the eminences at which the gravels were found.

The following paper was then read:

NOTES on some ARCHAIC STRUCTURES in the ISLE OF MAN. By
A. L. LEWIS, M.A.I.

THE Isle of Man, full of attractions for the anthropologist, the archæologist, and the admirer of the beauties of nature, though visited annually by thousands of pleasure-seekers, among whom are, doubtless, many on more serious thoughts intent, possesses numerous ancient monuments, which may not as yet be known to all the members of the Anthropological Institute, and it is to a few of these that I would draw your attention on the present occasion.

The first which I visited was the celebrated Tynwald Hill, a mound of earth about twelve feet high and eighty yards in circumference, the sides of which are cut in terraces, but of which, as it has been described in every publication respecting the island, I did not myself take any measurements. This, as is well known, is the place from which the laws of the island were proclaimed, and has been used for similar purposes from time immemorial. Its foundation is generally attributed to the Scandinavians; but it is not unlikely that it may be of still more ancient origin, as the Celts are believed to have used artificial mounds for similar objects. The renowned Silbury Hill, near the great circle of Abury, has been conjectured, and with much probability, to have been a place for national assemblies and proclamations, and is undoubtedly pre-Roman.

Tynwald Hill stands at the crossing of four roads; and, at the entrance of the most northerly of these, on the left hand side, built into a bank formed by cutting the road down to its present level, and as nearly as possible, I believe, in the position in which it was found when that operation was performed, is a kist, about five feet long inside, formed of rough stones, with one

seven feet long as a cover. This kist is said to have been the burial-place of King Regnwal, whose reign over Man terminated in 959.

On my return from Tynwald Hill to Douglas, I visited one of the most curious remains in the island: it is situated at or near a place called Mount Murray, about two miles south of the road from Peel to Douglas, and consists of a circle, about forty-seven feet in diameter, formed of a slight bank of earth, two or three feet high, but now effaced in many places, with small stones of about the same height placed here and there in the bank; it is probable that these stones originally stood round the inside of the bank at tolerably regular intervals, but only nine or ten now remain in position; two of them are placed crosswise to the bank, at a small gap two feet and a half wide, which has the appearance, therefore, of an entrance; but the main entrance was on the opposite side, where two banks of earth, four or five feet high and eighteen feet apart at the entrance, form an avenue which winds nearly half round the circle, diminishing both in width and in the size of the banks, which, indeed, finally disappear as it approaches the circle. Here, as in the circle, stones are placed against the banks, and, as the banks of the avenue are larger than those of the circle, the stones follow the same rule, being three or four feet in height and width and one or two in thickness. Between the entrance to the avenue and the circle (about forty feet) is some moist ground, where, in wet weather at least, a spring rises, and forms a tiny stream, which is crossed by the avenue before it joins the circle. The avenue is about 150 feet long, but can now only be faintly traced except at the entrance. This singular structure differs from all that I have seen; but was, I imagine, a place of public assembly, if not of public worship, at some distant, and probably pre-Scandinavian period. I had understood that there were other remains near by; but my various inquiries after them only led to my being conducted, after a walk of three or four miles, back to those I have described. However, although I was unable to find them, I believe there are others, probably sepulchral, in the vicinity.

My next visit was to the beautifully situated little town of Laxey, close to which, on the left hand side of a lane running from the left of the Ramsay road, stand, in a garden belonging to a small cottage, the remains of a sepulchre called King Orry's Grave. It consists of two chambers in line, 15 deg. north of east by compass, the sides of that to the east being formed by two slabs, each nine feet long, four to five high inside, and one thick, standing three and a half feet apart; the second chamber was of much the same dimensions, but its sides were each
ned by two stones instead of one, and it was separated from

the first by two other stones, which, from their shape, left an elliptical opening in the middle. Openings of this kind, whether in a single stone, or formed, as in the present case, by the junction of two stones with curvilinear edges, are not uncommon in connection with megalithic monuments, and are believed by some, and perhaps not without reason, to have a phallic origin and signification. Both these chambers are sunk in the earth about three feet; but the stones which covered them are gone, though pieces of those which formed the ends remain. At the south-west corner, and leaning in a south-westerly direction, is a large stone, nine feet and a half high, two and a half broad at the base, and nine inches thick, with one of the same width and thickness, but only two feet and a half high, in front of it. The total length of the structure from these stones to the east end is twenty-four feet. A boy belonging to the neighbourhood showed me a thin piece of iron, which might have been part of an antique horseshoe, and which he said had been dug up in this sepulchre, but which he refused to sell.

On the opposite side of the little lane I have mentioned, I found the remains of another sepulchre. A line of four stones, varying from two to five feet in width and height, and one to two feet in thickness, ran 10 deg. west of north by compass, and appeared to have formed the north-eastern end of, perhaps, three chambers placed in a row; the centre one of these could clearly be traced, and was about six feet square, but the stones were scattered about in such a manner that it was quite an open question whether there had or had not been another chamber on each side of it. About four feet from the north-east corner, stood an upright stone three feet and a half high. The whole structure was much buried with earth, vegetation, etc., and was very ruinous; it was, moreover, in such perilous proximity to some houses that were being built, that I greatly fear that by this time it no longer exists.

Close by the road from Laxey to Douglas are the remains of another sepulchre, called the Cloven Stones, situated, as are those I have just described, so as to overlook the sea. It consists of a chamber, about six feet and a half square, each of the three remaining sides of which are composed of two stones, which were originally each about three feet high and wide, and one thick. In this, as in the chambers previously described, the roof, whether composed of large flat stones or of smaller stones built into a vaulted form, is entirely gone. About five feet from each of the northern corners of this chamber, and about seven feet apart, are two upright stones, between five and six feet high, and from two to three feet in width and thickness, one of which

has been split down lengthwise (if indeed it were not so originally), and gives the name of Cloven Stones to the structure. All the stones stand on a small tumulus, and the chamber is partly buried in it. It will have been noticed that all three of these sepulchres have upright stones adjoining them, answering to some extent, it may be, to the modern headstone, a feature which, though sometimes observed in England, is, I believe, more characteristic of the Scandinavian remains, and, with other circumstances, leads me to think it not unlikely that the common report, which makes these Manx sepulchres Scandinavian rather than Celtic, may be correct.

The last prehistoric monument which I had an opportunity of observing in Man, is situated on the right hand of the old road from Douglas to Castletown, near a place called Ballakelly, and, at first sight, appears a perfectly shapeless mass of stones, but, on examination, presents the appearance of a rude chamber, five to six feet long by one and a half wide, with other stones round it at a distance of about two feet, forming a kind of walk round it, and resembling in this particular some sepulchres which Dr. Sinclair Holden has found in Antrim. Four yards to the south-east are four stones heaped together, and two yards and a half respectively to the north-east and south-west of these are two other stones. The dimensions of the stones forming this group are from two to five feet in height and one to five in breadth and thickness. The chamber runs about south-east by compass, and is different in this respect to those previously mentioned, which, though differing from each other, all run in a direction between north and east. The differences of construction and orientation, and its partial resemblance to some remains in Antrim, may perhaps fairly lead us to assign this chamber to an earlier period than those first mentioned, so that, if they be thought to be Scandinavian, this may be considered Celtic.

Several other monuments are known to exist in Man; and, in the more remote corners of the island, there are probably many which are as yet unknown, and which may present new features, so that any archæologist going there, with plenty of time at his command, is likely to find much that is new, as well as valuable, to reward his pains.

Liverpool being the most usual point of departure for the Isle of Man, a few remarks on the circle situated about three miles from that city, and known as the Calderstones, may not be deemed an inappropriate conclusion to the present paper. The stones are six in number, and are surrounded, for their preservation, by a high iron railing, which prevented my getting at them to take exact measurements. They vary from three to six feet in height, two to five in width, and one to two in thickness;

line of "kitchen-middens". These have been found even in the Bay of Rio, upon the shores of the Ilha Grand; whilst from my pleasant and salubrious station, Santos, one of the S'a Leones of the Brazil, I sent home to this Society specimens of the hatchets used by the Tupy race for opening shell-fish, and mostly of the class denominated palæolithic or archaic. I use the words generally, not confining "palæolithic" to the Drift period, or "archaic", as has been proposed for the Cave implements; whilst "prehistoric" is limited to those of the Tumuli, and "neolithic" to the finished and polished specimens. A pluralist as regards employment, I can hardly find time at present for working up my long notes upon this subject; but I shall be most happy to place them in the hands of any brother member, who has leisure and inclination to attempt the task.

Since we last met in this room, I have had two years of service in Syria and Palestine; and I may assure you, gentlemen, that I have not found the Holy Land a bed of roses. Without entering into political or official matters, which would here be out of place, I may, in a few words, assure you that my post was one of great difficulty and of greater danger. I have been shot at by some forty men, who, fortunately, could not shoot straight; I have been seriously wounded on another occasion; and, lastly, my excellent friend and fellow-traveller, Charles F. Tyrwhitt Drake and I were pursued by a party of about three hundred Bedawin assassins, placed upon our track by a certain Rashid Pasha, late Wali or Governor-General of Syria. On the other hand, my friend and I have been able to explore the highly interesting volcanic region lying immediately to the east of Damascus, and to bring home a plan of the giant cave, which seems to have been mentioned by Strabo. We have also mapped the whole of the Anti-Libanus, a region far less known than the heart of the Andes, the best proof being that upon the best maps the name of only one peak is given, and even that is given incorrectly. Our notes upon the subject are reserved for the Royal Geographical Society, whose actual President, the world-famed Sir Henry Rawlinson, has, in his opening address of Monday, November 13th, made courteous allusion to our labours: it is sufficient for me here to state that our joint publication will alter the map of Northern Syria. And, neglecting all details concerning the peculiar circumstances which led to my leaving Syria, I may briefly assert, that the action taken by the authorities has led to a result which I hardly expected: it has made my name historical in the Holy Land. The Moslems of Damascus gathered in thousands at the great Amawi, or Cathedral Mosque, of that once imperial capital, and had public prayers for my return; whilst Mrs. Burton was

compelled to quit the city privately, in order to avoid a demonstration which might have been dangerous. You will excuse me if I have made these personal details too personal; but I feel it due to you and to myself that my unexpected appearance in this room should be honourably accounted for.

Before proceeding with the business of the evening, I will read a note addressed to me by my friend Mr. Fred. Collingwood.

“November 15th, 1871.

“My dear Capt. Burton,—I am directed, on behalf of the Publication Committee, to ask what illustrations you wish should accompany your papers on Collections from the Holy Land; and whether we can help you in the preparation of diagrams for our evening meetings.—I am, yours faithfully, J. FRED. COLLINGWOOD.”

The wishes of your Council should have been consulted upon this and other matters; and, indeed, without illustrations it is almost useless to describe a great variety of articles, especially silver implements. Unfortunately, however, time is wanting; and the delightful hospitalities of an English country-life have, I fear, considerably modified the rugged energy that results from wild travelling.

It has been suggested to me that a few words of explanation, concerning a report now made public by the press, may be desirable, as certain persons may be expecting me to lecture upon a man fourteen feet long. The fact is, that Capt. Murray, R.N., a Fellow of the Royal Society, lately informed me that, when excavating at Ramlah, near Alexandria, he came upon some ancient catacombs; that he found a skeleton measuring eleven feet long; that he carried off sundry ribs and vertebræ, and that he still possesses one of the latter. He has promised me the loan of it; and, should the article be forthcoming, its first appearance shall be in this room.

In offering you this instalment of a catalogue *raisonné* of an anthropological collection made in Syria and Palestine, between April 15th, 1870, and August 6th, 1871, I purpose, with your permission, to read out a list of the articles lying upon the table; to illustrate the position of the finds by certain topographical remarks, which I beg leave to say will not be found in the guide-or hand-books; and, finally, to refer the matter to Dr. C. Carter Blake. My friend has kindly volunteered to supply my deficiencies in comparative anatomy and zoology; and we shall both feel grateful for all suggestions and additional information, especially concerning the mummy cloths and the tesserae, which may be offered by learned members of our Institute. In conclusion, we owe the loan of the map to the kindness and courtesy of Mr. Secretary Bates and Captain George, R.N., of the Royal Geographical Society. I may note in connection with it that,

strange to say, the position of Palmyra is yet undetermined. The following are those most generally adopted :

Lieut. Vigne's (Duc de Ligny's map) : N. lat., $34^{\circ} 32' 30''$; E. long., $38^{\circ} 14' 39''$.

Lieut.-Colonel Chesney's map (Walker) : N. lat., $34^{\circ} 15' 00''$; E. long., $38^{\circ} 35' 00''$.

Carl Ritter : N. lat., $34^{\circ} 17' 30''$; E. long., $38^{\circ} 32' 30''$.

Major Rennel : N. lat., $34^{\circ} 24' 00''$; E. long., $38^{\circ} 20' 00''$.

Murray's Handbook has adopted, from Rennel and Lieut. Vigne's : N. lat., $34^{\circ} 35'$; E. long., $38^{\circ} 14' 39''$.

I am informed by Mr. Stanford, R.G.S. (6 and 7, Charing-cross), that the position of Palmyra is not given in Ritter's *Erdkunder*.

Catalogue Raisonné of an Anthropological Collection made in Syria and Palestine, between Apr. 15, 1870, and Aug. 6, 1871.

No. 1 Lot.—The following is a list of the articles which were collected at Palmyra, during a tour which lasted between April 5th and April 21st, 1870.

7 skulls ; $3\frac{1}{2}$ jaws, and sundry fragments ; 1 hand, perfect ; 1 ditto (minus thumb), and fragment ; 1 foot.

1 parcel of bones ; namely, 2 thigh-bones, a foot nearly perfect, a back and ilium of a mummied child, 3 spinal vertebræ ; various fragments of skulls, ribs, spine-bones, and tibiæ, with odds and ends of bone.

1 parcel of common mummy cloth, mostly cotton (?), including a hand.

1 parcel of coloured ditto, yellow with purple edging, being the most common ; a bit of blue stuff (linen ?)

2 fragments of bitumen cup (?), like those made at Kabr Mûsâ (Moses' tomb, west of Jericho).

$3\frac{1}{2}$ mortuary lamps.

4 fragments of rough old stone pottery, like our greybeards.

A remnant of shoe-leather (?)

Specimen of mummied hair, stained yellow (raddled ?)

1 oblong tessera, with Palmyrine inscription.

9 circular tesserae, one inscribed.

7 oval and square tesserae.

2 pyramidal ditto.

1 circular pebble, apparently worked.

Miscellaneous.

25 coins of little importance. These we picked up everywhere at Palmyra : we never walked out without finding some.

1 glass coin, apparently of the same kind offered for sale at Tyre. None of the Palmyran collections which I have inspected

contained any glass coins. In the eighteenth century, glass money for local currency, like the Hebrew bank-notes of Tiberias and Safet, was made at Hebron.

26 slate stones, 1 peach (?) stone and 1 apricot-stone, taken from mummy heads. No skull was found without them. At Shakkah (Saccæa), in the Jebel Duruz Haurán, the succedaneum is an almond-shell with the sharp end cut off, and forming a diminutive cup.

1 coin, Leon and Castile.

6 fragments of pottery.

1 fibula.

1 bell.

1 mutilated figure (Virgin and Child ?)

1 bloodstone, engraved with figures of two horsemen.

1 scalloped bead.

1 Egyptian figure (?).

1 larger figure (Egyptian ?).

1 smaller figure.

2 seals.

1 scarabæus.

The skulls, bones, and mummy cloths, are evidently those of the ancient and pagan population of the Palmyrum. The tomb-towers, whose age is known to bear date 314—414 of the Seleucidæan era, corresponding with our A.D. 2 and 102. It is highly probable that the heathen practice of mummification declined under Roman rule, or after A.D. 130, when the great half-way house between the Mediterranean and the Indian Ocean became Adrianopolis. Still vestiges of the old custom are found extending far into the second century, when it is believed that the Himyarite Benú Ghassán (Gassanides) of Damascus had abandoned their old faith for Christianity.

Our short visit of five days allowed me only a day and a half to try the fortune of exploration at Palmyra. It is easy there to hire a considerable number of labourers at two and a half piastres a head per diem—say sixpence—when in other places the wages would be at least double.* I secured forty-five coolies, who had nothing but diminutive picks and hoes, grain-bags and cloaks, which they converted into baskets for removing sand and rubbish. Operations began (April 15th, 1870) at the group of tomb-towers marked “cemetery” in the Handbook, and bearing W.S.W. from the great temple of the Sun. It is one of the two Viæ Appiæ, which enter, or rather which entered, Palmyra :

* The labourer's wage throughout Palestine would now be five or six piastres, a little more than one shilling. In the days of the New Testament money must have been nearly as dear again ; for we find a denarius (sevenpence-halfpenny) paid as the established price of a day's work.

this is upon the high road to Damascus; whilst the other, to the north-west of the official or monumental city, was doubtless the main approach from Hums and Hamah. Both are lined on each side with the monuments which here take the place of the Egyptian pyramids; and their squat solid forms of gloomy and unsquared sandstone contrast remarkably with the bastard classical Roman architecture, meretricious in all its details, and glittering from afar in white limestone.

I chose the south-western group, because it appeared to be the oldest of the series. The Fellahs know it as Kusúr Abú Sayl, the Palaces of the Father of the Fiumara; and they stare when told that these massive buildings are not kusúr but kubúr (tombs). "I dare say it is all one (kulloh wahid) to the owner", said a Voltairian hand, when the words of truth were announced to him. Here the loculi in the several stages were easily cleared out; they had been ransacked before, and they supplied only a few bones and shreds of mummy cloth. A calvaria (No. 1), however, and the larger thigh-bone, with attachments of dried muscles, were found in the upper story by one of the Fellahs. From another and a neighbouring tomb-tower, they brought calvaria No. 2, which evidently belongs to an elderly and masculine person, of decidedly unpleasant propensities. He is, in fact, a fit companion for No. 1.

The rest of the collection came from the adjacent ruins. Calvaria No. 3, pierced near the suture, contained a greater number of olive-stones than the rest: can this peculiar process have been adopted in order to show the extent of the owners' possessions? No. 4 is the head of a young girl, and displays all the peculiarities of the modern Syrian cranium—it can hardly have been buried many years ago. No. 5 looks as if it had been compressed behind after burial; but it is distinctly of the old Syrian type, whilst even the solidity cannot be considered abnormal. As a rule, in these countries the oldest calvariæ are the thickest, and similarly the largest building stones are the oldest. No. 6 is also evidently distorted by pressure to the proper right. No. 7 is apparently modern, and its fragility contrasts with No. 5; the peculiarity in the orbits of the eyes is not to be noticed in other heads.

I then applied the hands to a plain mound, lying about a hundred yards to the south of the largest tomb-tower. It offered a tempting resemblance to the undulations of ground which cover the complicated chambered catacombs already laid open, and into one of which, some few years ago, a camel fell, the roof having given way. Three shafts were sunk in the slopes of the barrow, and four men were told off to each. The first four feet passed through hardened surface-soil, and a loose conglomerate

of pebbles rolled down from the Jebel Mintár (the Look-out Mountain) upon whose lowest folds we stood. Then came lumps of snow-white gypsum mortar, which gradually formed a stratum also four feet deep. It appeared to be artificial, but all the hands agreed that it was not. This *fouille* was abandoned, as time pressed us hard.

The third attempt was made at a spot to the north of, and next to the largest tomb-tower. Here a skeleton square of large blocks, containing an area that corresponded with the nearest building, and ranged in line with it, suggested something below. After three feet of the usual surface soil, the pick struck upon three large unworked stones, firmly embedded in mortar, and disposed in tripod shape. The labourers declared that we had come upon the foundations of a house: we persevered, however, to a total of nine feet six inches, and presently, on the west of the tripod, appeared a semicircle of cut stone, like the curb of a well. The contents were pure sand—in fact, the Desert drift, mixed with fragments of coarse and heavy pottery, some light brown, others yellowish, with lumps of gypsum lime and bits of well preserved charcoal. The colour of the arenacious matter was at first pale ruddy, as if affected by damp; but, after ten minutes' exposure to sun and air, it became dull white, and it was easily sprayed by the wind like that around us. The shape of the hollow below the half rim was that of a Florence flask—in fact, the Algurian silos and Morocco matamors, which are extensively found in this part of Syria, and which, in places like the Tell Shaykh Abdullah, near Hasyah and the Khan Shamsín,* between it and Hums, occupy the greater part of a hill. None, however, are equal to the immense excavations near Bayt Jibrin and Dary i Dubbân, which, despite their Greek crosses and Cufic inscriptions, were believed by many travellers to be "Horite dwellings". But, judging from its position, this was probably an old cistern, filled by the drainage of the roof. Ancient Palmyra, which I estimate to have been at least nine miles in circumference, without including the outlying tomb-towers extending in a broken line from the north-east to the south-west, could not have been adequately supplied by the two streamlets of a water resembling that of Harrogate, or by such an aqueduct as that whose ruins are still visible. The Wady-el-Sayl (Valley of the Fiumara), which separated the monumental from the popular city, is a mere nullah, generally bone-dry, sometimes a raging torrent; and the disforesting of the hills to the north and west has doubtless reduced it to its present state. The depressed site of the great dépôt, upon the very threshold of the Dau, or Wilderness, upon the shore edge

* The maps are in the habit of calling this place "Shimsán".

where the sandy sea breaks against the furthest headlands offsetting from the Anti-Libanus, suggests the extensive use of cisterns and wells. And these will be required again—the world has not yet heard the last of Palmyra as a half-way house between the Mediterranean and Hindostan.

My fourth and last attempt was to pierce into a heap to the west of No. 3. Here I directed the men to sink a shaft five feet deep, and then to tunnel under the loose stones which lay upon the surface. The dirt was, as usual, superficial alluvium and gypseous lime. Presently, however, during our absence, the workmen came upon two oval slabs of soft limestone, almost like chalk, each with its kit-cat in alt-relief. One was a man, with straight features, short curly beard, and hair disposed as appears to have been the fashion for both sexes, in three circular rolls; it might have been a priest had there been a sign of tonsure—I have, however, been unable to determine the period at which tonsure prevailed throughout these regions. The style of coiffure is frequently seen in heads brought from Palmyra. The other was a feminine bust, with features of a type so exaggerated as to resemble the negro; both being too debased to deserve transport, they were left upon the ground. A third and similar work of art was brought, but the head had been removed.

On the next day, the villagers exhibited a fourth slab of the same kind, but they would not show the place of their *trouvaille*. This specimen had a double inscription, the incised characters being stained with a red vivid as vermilion, and between them was a larger head, with a smaller on its proper left. This hideous work of art was secured for M. Peretié, Dragoman of the French Consulate-General, Bayrout. That well-known collector has a bust, which possibly represents Zenobia: the material is terra cotta; the ornaments are numerous and peculiar; and the general style of the workmanship will be understood from the illustration, the latter taken from a photograph.

The remnants of statuary which we found at Palmyra were of two styles: the one above described native and barbarous; the other classical, or rather subclassical. The type may be judged from the tesserae, and most of the tomb-towers probably had over the entrance, or in niches disposed at various altitudes, the full-length figure reclining upon a couch, and propped upon the left elbow. In all cases, the heads have been knocked off by the iconoclastic barbarians who conquered the land; but sufficient of the members and of the drapery remains to show that the workmanship was very far superior to the indigenous articles. Specimens of Palmyran art are to be found almost everywhere in Northern Syria. More than one figure is rare.

I have seen, however, several groups: the most remarkable was that of a woman carrying a well grown child upon the left shoulder. Both are clad in the plaited clothing, which also appears to have been *à la mode*, and the mother's front hair is dressed in three horizontal lines, with the rest pulled back. One of the most pleasing figures is an alt-relief in the house of my excellent friend, M. F. Bambino, Vice-Consul of France for Hums and Hamah. In the adjoining illustration, the hair is drawn off the face, and the features are somewhat Grecian.

This semi-barbarism of art seems to be the case in Syria and Palestine generally; Cyprus, on the other hand, as General Cesnola and Mr. Lang have proved, yields terra cottas, mostly heads, busts, and full-length figures, which in beauty and expression are purely Grecian. A marble Cupid, sent to Paris before the war, showed the finest chiseling. Unfortunately, the savage who disinterred it at Bayrout smashed the features; and, when told that he had spoilt his property, proposed to restore it by means of a stone-cutter from the bazaar. The gigantic marble statue of a woman, seated upon a chair, with a sphynx at her left, still lying in a back street of Ba'albek, is also Greek in style and dress, but the proportions are poor; in fact, the finest Greek art never seems to have strayed far from the shores of the Mediterranean.

Umar Bey, a Hungarian officer, who was stationed for some months at Palmyra, in command of the troops, made a large collection of clay tesserae, which here seem to represent our "tokens". He kindly allowed me to take notes of them. I did not, however, copy the inscriptions, knowing that he intended them for his father-in-law, M. Mordtmann, the archæologist.

The forms greatly vary, being square, round, oblong, crescent-shaped, semi-circular, triangular, pyriform, rhomboid, and jug-shaped. Some have three plain lines, and the fourth or uppermost, a waving outline. They are mostly of plain, yellowish clay; some bear traces of a purple colour, and a circular tessera is half red half black.

The characteristic obverse is the reclining woman before mentioned, raised in tolerable relief and facing to the left. Sometimes, there are two, three, and even four figures, resting upon a couch more or less solid. Those with inscriptions below are rare, and, of course, more valuable. On the proper right of the figure there is often a vine, realistically or conventionally treated, either with leaves or with mere whorls like exaggerated tendrils. Some have a bird placed above the figure; others a sacellum showing a human shape, in an oval raised upon a circle. That the figure enclosed in the sacellum represents the Yoni I have no doubt whatever. Let it be compared with Layard's



PALMYRENE FIGURE

From the Collection of Mr. F. Bambino.



PALMYRENE MOTHER AND CHILD

from Ditto.

Standing figure. R. Sun and stars (lozenge-shaped tessera).

Head and crown of rays facing right, under it eagle. R. Serpent (tessera half red and half black).

Two figures on throne and two standing. R. Three pine cones (?); eagle and star below.

Spread eagle. R. Umbo and inscription. N.B.—This umbo is a phallic emblem, which appears sometimes on one side, sometimes on both. It is, in fact, the Chemosh or Priapic idol of Moab, a "gerundert stein". This well known figure naturally leads me to notice the last work by my learned friend Dr. Beke ("The Idol in Horeb: Evidence that the Golden Image at Mount Sinai is a Cone and not a Calf." London: Tinsleys, 1871). Dr. Beke (p. 4) is distinctly of opinion that the golden cone was an image of the flame seen by Moses in the burning bush, and of the fire in which the Eternal had descended upon Sinai; and he rejects the allegations of a correspondent (p. 24), which makes him impute to the Israelites the "obscene phallic worship". I cannot, however, but believe that, like cannibalism, infanticism, and perhaps sati (suttee), the adoration of the Lingam-Yoni, has been, at various ages of the world, universal, typifying, by a gross material image, the reproductive powers of Nature. The subject is far too extensive for anything but casual mention in these pages; but no one will forget the Crux Ansata of Egypt, or the Lingam-Yoni of Ancient and Modern India; and upon this subject I venture to recommend an excellent work by Dr. Thomas Inman, "Ancient Faiths embodied in Ancient Names" (London: Trübner, 1868). It abounds in information of the highest interest; and, probably on account of its freedom from prejudice, it has been damned with faint praise by the many who reviewed it.

Eagle not spread. R. A tick resembling the Brazilian carapato. N.B.—One of the leaden coins bears a bust and a carapato on the reverse.

Human figures are, perhaps, the most common; *e. g.*,

Bust with tall coiffure, facing to right. R. Standing figure.

Head between two garlands on crescent-shaped tessera.

Bust. R. plain.

Bust. R. Sun (circle) and stars (lozenge-shaped tessera).

Head and two stars on quarter moon. R. plain.

Bust facing to front. R. Ladder of five rungs and stars. This R. also occurs on pyriform tesserae.

Vase and hand.* R. Flower-pot (?) and inscription.

Head. R. Head and sceptre.

* This might be Jewish; the hand and the manna cup, especially the former, are favourite emblems.

- Head. R. Head (pyriform tessera).
 Head of Roman type facing left. R. Inscription.
 Standing figure of man. R. plain.
 Woman and vine. R. plain (pyriform).
 Hand in square. R. Four cones joined at bases.
 There are various figures of animals; *e. g.*,
 Two horses. R. Two fishes.
 Gazelle. R. Small Genius and two stars. N.B.—The gazelle
 often occurs upon the smaller Palmyran coinage.
 Ibex. R. (?)
 Lion pulling down gazelle. R. One figure sitting upon a
 chair, the other standing.
 Lion. R. Bee on flower (?)
 Winged griffin. R. Two bulls and inscription.
 Scorpion on rhomboidal tessera. R. Lyre-shaped figure.
 The other figures are chiefly :
 Cornucopia. R. plain.
 Vine-leaves. R. plain.
 Large and small circles. R. plain.
 Two vases and two stars. R. Inscription.
 Two vases, one large, the other small. R. plain.
 Eccentric figure found upon many. The inscribed character
 is a contraction of "bar", son of —. I presume that the object
 denotes an altar.
 Depressed sacellum and figure inside. R. plain.
 Two large stars and one small. R. Sacellum.
 Semi-circle and star. R. Inscription.
 Wheel on conical seal (Agathe Tykhe ?)
 The principal beads are :
 Long oval with eleven or twelve ribs; the colours, green,
 blue, and white, appear at both ends.
 Coarse blue glazed china bead.
 Glass, red on white ground.
 Fine purple glass, like garnet.
 Blue glass, bright and good.
 Long oval black glass, with three lateral and deeply indented
 white bands.
 Agate beads, small.
 Bead of pink madrepore (unbored).
 Imitation shell bead.
 Bead in shape of phallic umbo.
 The collection also contained a small stone weight, and many
 coins, some of them of lead. The most curious were those
 which bear Moslem inscriptions, with heads of men and of lions.
 My friend and fellow traveller, Mr. Charles F. Tyrwhitt
 Drake, also made a collection of Palmyran antiquities, which he

will himself describe. There is no better field for inquiry than these grand old ruins. As has been shown, labour is plentiful and cheap; and I will answer for the civility and kindness of Shaykh Fâris, who now protects the British-Baghdad post. A month might be spent to great advantage at Tadmor. Future travellers are advised to carry with them a crowbar, a rope-ladder, a plank or two, and cords with hooks, so as to explore the upper stories of the tomb-towers which may hitherto have escaped ransacking; and I should advise them to dig, not at the south-west of the ruins where we did, but to the north-east, where a large blot of dark ashen ground, scattered over with dwarf tumuli, denotes, according to our Fellahin informants, the Siyaghah, or gold and silversmiths' bazar. When searching ruins, the explorer will do well to remember General Cesnola's rule; namely, to dig along the inner walls, not in the centre. The result, in Cyprus at least, left nothing to be desired.

I will now make way for my friend Dr. Carter Blake, who requires no introduction from me. And I have the honour to return my best thanks for the patience and perseverance with which you have listened to a somewhat dull paper.

NOTES *on HUMAN REMAINS from PALMYRA*. By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy and Zoology, Westminster Hospital. With an Illustration by GEORGE BUSK, F.R.S., President of the Royal College of Surgeons.

CAPTAIN BURTON has done me the honour to place in my hands, for description, some of the valuable human remains which he has derived from Palmyra. The fact that these relics have only been in my possession since the 10th of the month will, I hope, induce the members of the Institute to grant me some indulgence in the description.

In order that the ancient skulls from Palmyra may be carefully considered, I shall commence my description with a short conspectus of the characters of the typical modern Syrian skull of the present day, marked No. 4 on the specimen.

Skull No. 4.—It is ovately orthocephalic, its greatest length being 16.5, and its greatest breadth 12.7, the cephalic index being consequently .76. With largely rounded parietal tubers, not so prominent, however, as in the young Hindû of the same age (about nine years), the frontal region is remarkably square, and well developed; the jaws are orthognathic, and the malar region is delicate. An equable curved line extends from a spot, at about one-third of the longitudinal diameter of the frontal bone, to the median portion of the supraoccipital. The lower

portion of the occipital bone is largely developed, and proceeds gently to the foramen. Whilst there is no indication of *probole*, the transverse union of the supraoccipital bones is well shown. The base of the skull exhibits few points of muscular attachment. The jugular foramen is largest on the left side. The teeth in place are incisors $\frac{4}{0}$ can.

$\frac{1-1}{0-0}$ p. $\frac{2-2}{0-0}$. The first molar, as such it may be called, is in the alveolus, and would have proceeded to cut the gum sooner on the left than on the right side. The remarkably small and delicate palate would, in after life, have left but little room for the adequate development of the premolar and molar series. While slight and gracefully arched pterygoid processes extended laterally, the junction between the basioccipital and basisphenoid bones is not nearly closed. The nasal spine is prominent, and the nasal bones well developed and slightly arched. The suborbital foramina are normal. The mastoids are very small, and there are no traces of paroccipital (jugular) or of pneumatic processes.

Generally it may be said that the present skull, with its graceful contours, is one of the "prettiest" that the comparative anthropologist might examine; and that, in its general form and shape, it can be pronounced to be as distinct in form from the archaic or prehistoric Palmyrene skulls as it is possible to conceive. That these characters are not such as are merely dependent on sex and age, it will be the object of the comparison I am about to institute conclusively to show; and I believe that this comparison will be borne out by the investigation of another and larger series of Syrian skulls, which, through the kindness of Captain Burton, and with your permission, I propose this session to describe.

The consideration of Syrian and so-called Phœnician skulls is a subject which will always be attended with some difficulty. The dearth of literature on the subject enables me to refer to comparatively few authorities. Of these I shall briefly mention Nott and Gliddon, "Indigenous Races of the Earth" (part written by Dr. J. Aitken Meigs), p. 314; Marichard and Pruner Bey, "Les Carthaginois en France," 8vo, Montpellier, 1870; Barnard Davis, "Thesaurus Craniorum" (description of No. 1174, p. 86); Nicolucci, "Di un antico cranio fenico rinvenuto nelle Necropoli di Tharros in Sardegna," 4to, Turin, 1863; and the comprehensive and elegant memoir of the last named author in *Bulletins de la Société d'Anthropologie*, v. 703. A perusal of these works shows that the characters of the so-called Phœnician or Syrian branch of the Semitic race have been adequately discussed by far more eminent anthropologists than myself, and I

therefore have ventured to presuppose your thorough acquaintance with them. I shall adopt the system of measurement of Barnard Davis (with Busk's instrument), and the nomenclature of Professor Huxley.

I now turn to the description of the skulls from Palmyra, the *gisement* of which has been already described by Captain Burton.

Skull No. 1.—This remarkably thick calvaria comprehends the whole frontal bone and large portions of the parietals and nasals. The frontal suture has been open until a late period of life, as is shown by traces near the coronal suture and also on the glabella. The coronal suture is deeply denticulated, the greatest amount of serration being at the spot common in most Negro and some ancient British skulls, across the insertion of the *temporalis* muscle. The size of the individual must have been enormous. The nasal bones, or what little remains of them, do not indicate that the nose was large, and the supranasal notch is remarkably shallow. The calvaria is equally arched. It is subject of regret that the point of junction between the parietal and supraoccipital bones does not exist, by reason of the fractured condition of the parietals. The transverse diameter across the frontal bone could not have been less than 12·5 centimètres, and the degree to which the frontal arch is vaulted corresponds to this enormous dimension. Part of this great breadth is possibly due to the partially open condition of the frontal suture; but I think that this will scarcely account for more than the breadth. The frontal bone measures in circumference along the periphery, from the nasal to the coronal suture, 12·5 centimètres. The orbits were well arched, and the development of the superciliary ridges was slight. The skull, in fact, appears to have belonged to a very large and fine dolichocephalic individual; and it will be a subject of much regret that so little of the skull is presented to us, that I am consequently unable to include its precise dimensions in the table of measurements.

Skull No. 2.—This extremely large meciстоcephalic skull accords in its chief characters, as Captain Burton informs me, with those of the existing Phœnician. With a cephalic index of 70, it shows traces of having belonged to an exceptionally strong and powerful male, as shown by the largely developed superciliary ridges and mastoid processes, and by the general heavy and athletic contours of the cranium.

Comparison of this skull with those of the Sémite Phénicien figured in Plate II of Marichard and Pruner Bey's memoir shows agreement in nearly every essential aspect; and the characters which my excellent friend (now, I believe, still in ill health in Switzerland) has pointed out as distinctive of the Phœnician

Semite skull are here strikingly manifest. For he says: "Le palais est parabolique, *et excessivement profond*, sans évasement."

This character of the deeply vaulted and capacious palate is perhaps the most striking fact connected with the present skull. The large pterygoid and hamular processes, the extraordinary development of the occipital region, and especially of the *probole*; the peculiar flattening of the skull at the parietal bones above and behind the mastoid region; the prominent parietal tubers, and the generally "long drawn out" aspect of the skull; remind the student at first sight almost of the Negro calvarium. Possibly, on the application of Rokitansky's law, some of this great absolute length might have been due to the early and premature closing of the coronal suture. I am far from denying this theory (which I have elsewhere strongly supported*), and which would probably receive the advocacy of Dr. Barnard Davis;† but I would point out, that the obliteration of all the sutures has proceeded to nearly the same extent all over the skull, and that the coronal, sagittal, lambdoid, sphenoidal, and temporal sutures, are all nearly closed to the same degree. The head, as in Skull No. 1, is equably and ovoidly curved from the forehead to the lambdoid suture, from whence, after a manifest bulge of the upper part of the supraoccipital bone, the occiput shelves towards the foramen in a line which may be roughly said to be parallel with the alveoli. The foramen is large, broad, and rounded; the condyles are normal. The post-condyloid depressions are remarkably deep, with slight exostosis on the left side. The glenoid cavities are deeply excavated. There are small but well developed paroccipitals, but no "pneumatic" processes. The orbits are squared and depressed at the outer inferior angles. The supranasal notch is deep; the superciliaries prominent; and the forehead singularly flat towards the external angle. The teeth in position are only those of the molar and premolar series. The powerful malar bones must have rendered the physiognomy of the individual exceedingly severe. The teeth are large and strong, and do not indicate much caries or wear; they have dropped out since death. The alisphenoido-parietal suture is exceedingly long.

It will be a question whether the extreme length of this skull is a character of race or an individual character. The conformation of one of the lower jaws I shall show to you, however, appears conclusively to demonstrate that one other individual, at least, possessed the character of extreme cranial length and of great narrowness. In the skulls figured by Professor Busk

* "Memoirs of the Anthropological Society of London", ii, 79.

† "Thesaurus Craniorum", p. 49.

‡ "Memoirs of the Anthropological Society of London", ii, 281.

(Platycnemic Men in Denbighshire, "Trans. Ethno. Society", 1870, p. 467), "the absolute horizontality of the plane of the subcranial portion of the occipital bone" is pointed out as a character of one of the skulls from Cefn, and to a certain extent in the Borris skull of Professor Huxley ("Prehistoric Remains of Caithness", p. 125, figs. 60, 61). The same character is present in this Palmyrene skull to a great extent; but the latter has no relation whatever to these "tapinocephalic" skulls in its measurements. The researches of Dr. Aitken Meigs on the form of the occiput, illustrate how the same features of the occiput are often presented by a Negro, an Australian, a "River-Bed", or, as in the present case, a Syrian skull.

The extremely brachycephalic character of some of the more modern Syrian skulls which Captain Burton has brought from other districts, when contrasted with the length and peculiar aspect of the present specimen, leads the observer to two conclusions at least. The present skull accords with those of the Phœnicians, as figured by Pruner Bey, and differs *toto cælo* from the skulls of much of the population of Syria at the present day, and within the last thousand years. There are also slight resemblances at least between this skull and those of some of the Guanches exhaustively described by Dr. Barnard Davis ("Thesaurus Craniorum", pp. 189-193). How far the Phœnicians and Atlantean races were connected, I shall not now inquire, further than to refer to the opinions of Dr. Gustaf Kombst; and I would merely at present adhere to the verdict of Dr. Barnard Davis and myself, that the Guanches of Teneriffe appear to be *sui generis* ("Journ. Anthropol. Soc.", II, ccxxxiii).

Skull No. 3.—The calvarium before us is one which probably has belonged to an aged individual, as shown by the closing of the sutures; whilst it differs entirely from No. 2 in proportions, it presents characters which recall some of its proportions. The occiput, however, is full and round. The coronal suture is slightly denticulated, but is nearly closed; the sagittal is entirely so, with a tendency to the formation of a slight *rainure* on its hinder portion. The superciliary ridges are absent; the supranasal notch has not been deep; and the forehead is fairly arched and fully rounded. It is, of course, to be regretted that the facial bones are entirely absent. The malar bone on the left side has apparently been cut through, probably since death. The aperture in the parietal bone is also a "pick mark." The mastoids are small, and there are no traces of paroccipital or of pneumatic processes. The basisphenoid bone is large and broad. It is possible that this skull may have belonged to a female of middle or advanced age, but this is only a conjecture.

Skull No. 4.—This skull has been already described above.

Skull No. 5.—This calvaria is merely the occipital and parietal bones of a large dolichocephalic individual, closely resembling No. 3 in general contour. The sutures are all open and highly denticulated. The occipital bone shows a large, elongated and well developed *probole*. The ridges for the attachment of muscles are not pronounced excessively. The greatest breadth has been 14 centimètres.

Skull No. 6.—This is a large and fractured calvaria, of which the broken condition precludes that any accurate measurements could be taken. The coronal suture (since death) has slightly bulged, probably owing to the presence of mud or other moist matter in the skull after death. The frontal sinuses have been large, and the superciliary ridges prominent. The frontals are equably arched, and there are distinct and large frontal bosses. The contour is ovoid as far as the edge of the lambdoid suture. The alisphenoido-parietal suture is large and wide. The skull is broad at the parietal bones, with an equable rate of bulging over its whole surface, with the exception of the coronal suture. The auditory foramina are large. The arterial impressions on the inner table of the skull are remarkably deep and profoundly excavated. It is, of course, impossible to measure this calvaria accurately.

Skull No. 7.—The calvaria of a young individual, probably about seven years old. The present specimen can be advantageously compared with the modern Syrian girl's skull (No. 4). More prognathous than it, it is less ovate in its contour, and does not present that equable *tournure* of physiognomy which characterises the existing inhabitants of the district. The malar bones are remarkably small and weak, and the aperture for the temporal muscle very small compared with the typical Syrian, with the European of similar age, and with the Negro. The present skull exhibits many points which illustrate widely different race distinctions, which even in the young can be easily estimated. The maxillary bone is fairly prognathous; the palate is deeply vaulted, and the molar series, as indicated by their alveoli, are large; the palatal and traces of the intermaxillary sutures are present. The suture between the basioccipital and basisphenoid is perfectly open.

Skull No. 8.—This is merely a broken fragment of frontal bone, which appears to present some singular characters. Its fragmentary condition, of course, precludes any elaborate description of such a broken specimen. The superciliary ridges have been large; to a greater extent, in fact, than any of the other specimens. The edge of the frontal bone at the coronal suture has been preserved, and shows deep denticulations. The frontal bone appears to have been singularly depressed and low.

The frontal sinuses have been large. It is to be regretted that the junction of the sagittal and coronal sutures being absent, it is impossible to predict the size and shape of this very low frontal bone.

The three lower jaws, marked respectively α , β , γ , are all those of large and powerful males. In α and γ , many teeth are in place; while in β , which has belonged to an older individual, the teeth have been shed during life, and the alveolus, answering to m. 1 and m. 2, on the right hand side, is absorbed. All these jaws exhibit the same characters of largely developed coronoid processes, with shallow sigmoid notches in β and γ , whilst in α the more normal formation exists. The degree of wearing of the molar teeth appears to denote a hard diet, and might be accounted for on the assumption of the much consumption of parched corn by the Bedawi Arabs. The equable periphery and vertical widely exerted condyles of the jaw marked by γ , appear to denote that it belonged to a type of skull wholly distinct from those labelled α and β . The latter, with their comparatively greater amount of obtuseness in the angle of the jaw, appear to have belonged to shorter headed individuals than the jaw γ ; and I have little hesitation in affirming that the laws of correlation entitle us to affirm, although none of these jaws was found in juxtaposition with a skull, that the jaw γ belonged to an individual having the same cranial type as that which belonged to the mecistocephalic owner of skull No. 2.

Femur.—This very long bone measures 51.50 centimètres in length; it is covered with integument which prevents more precise measurement.

Tibia.—This measures 41.0 centimètres long. The proportion of tibia to femur taking the latter as = 100 was 79. These figures are sufficient to show the stature of the present race.

A very large mass of scattered bones is also preserved in the present collection. These chiefly consist of young individuals, among which there are accidentally strewn a few bones of the gazâl, (*Antilope dorcas*). There are numerous dorsal and some cervical vertebræ, also many fragments of lumbar vertebræ and one young child's lumbar region, with iliac bones attached.

There are two mummy hands, one left, which exhibits four fingers open, the thumb being broken away, the other on which the right fingers are contracted. In both these cases the fingers are delicate, tapering and long, and the nails have been slender. There is also a right and left foot, one nearly complete, in the case of mummy cloth, and one in which there are preserved five metatarsal bones alone. These feet are of small and delicate size. None of these bones of extremities accord in dimensions

with those of the larger skulls, and they are most probably those of females,

That a very large and exceptionally tall race of men existed at Palmyra at an early period of history, there can now be little doubt. How far the legends of gigantic inhabitants of Syria, may have originated from the evident fact that the prehistoric Palmyrans were of stature probably far exceeding that of the comparatively small Hebrews, I must leave to the student of Shemitic history. It is my duty merely to describe the evidences which are now upon the table, but I cannot resist calling your attention to the fact that amongst the relics now discovered, I see none which accords in cranial characters with the features of the Hebrew race, as they have been described to us by comparative anthropologists. The peoples who inhabited the oasis of Tadmor at the period when these mummies were interred, do not appear to have been of Jewish origin. At least the negative evidence must stand for the present.

Table of Measurements, according to Dr. Barnard Davis's System, in Centimètres.

	A. Internal capacity.	B. Circumference.	C. Fronto-occipital arc.	D. Intermastoid arc.	E. Length.	F. Breadth.	G. Height.	H. Length of face.	I. Breadth of face.	J. Prop. of Breadth to Length.	K. Prop. of Height to Length.
1. Broken calvaria
2. Mecistocephale	56	40	39.5	20.8	14.6	12.4	..	..	.70	.59
3. Orthocephale	59	35.5	34	17.1	13.1	11.1	..	..	.76	.61
4. Modern girl	45	34	32	16.5	12.7	10.8	..	9.10	.76	.61
5. Broken calvaria	14.0	..	..	..	..	..
6. " "
7. " "
8. " frontal

P.S.—On Dec. 22nd, I received a note from M. A. de Quatrefages, Professor of Anthropology at the Paris Museum, in which he suggests to me that the Palmyrene skulls, or some at least of them, may belong to the Chaldean stock. "This is in part characterised by the absence of the occipital *lamæ* and crests, and by the continuity of the curve above and below the latter." This hint may be of value, but at present the materials for comparison are very small.

DISCUSSION.

Mr. AVERY wished to inquire what was the probable size of the persons whose remains had been remarked upon, and whether they exceeded the ordinary stature of man. Races of men of enormous

size were said to have been found in Syria at the time of the Hebrew invasion ; and Porter had professed to find remains of their dwellings in what was Ancient Bashan. Are any remains of these races now in existence? He also inquired whether the present inhabitants of the ancient Palmyra, or the surrounding district, appeared to be the descendants of those who built that city. It was a curious fact that spasmodic civilisation had in that part of Asia arisen, flourished for awhile, and then utterly disappeared. He should like to know if there were among the now existing races any apparent fitness for, or endeavours after, a higher state of civilisation than they now enjoyed, or whether the ancient civilisers had entirely passed away.

Captain BURTON replied in a few words. He did not attach the least importance to the modern legends about gigantic races in Ancient Syria and Palestine. Mr. Porter's theories and assertions have long ago been disposed of. The present tenants of Palmyra are simply Fellahin, reclaimed Bedawin. Finally, although the ancient civilisation had passed away, he believed that the present race is capable, under favourable circumstances, of taking a high standing.

The meeting then separated.

DEC. 4TH, 1871.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read and confirmed.

The following new members were announced : P. C. SUTHERLAND, Esq., M.D., Surveyor-General, Natal ; JOHN CORDY BURRELL, Esq., F.R.C.S., Mayor of Brighton ; and J. PARK HARRISON, Esq., M.A., Ewhurst, Surrey.

The following presents were announced, and the thanks of the meeting voted to the respective donors :—

FOR THE LIBRARY.

From the AUTHOR.—On the Motions of the Human Foot ; Remarks on the Loss of Muscular Power and Economy in Walking. By James Dowie.

From the ROYAL ACADEMY, Amsterdam.—Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen, No. 2, vol. v. Jaarboek do., 1870. Processen-verbaal do., 1870-1.

From the AUTHOR.—Merlin and Arthur. By Scott F. Surtees.

From the AUTHOR.—The Chronology of the World. By J. S. Williams.

From the AUTHOR.—La Race Prussienne. By A. de Quatrefages.

From the AUTHOR.—*Mysteries of the Vital Element.* By Dr. Robert H. Collyer.

From the EDITOR.—*The Journal of Psychological Medicine*, vol. v, No. 4. By Dr. W. A. Hammond.

From the EDITOR.—*Correspondenz-Blatt der Deutschen Gesellschaft für Anthropologie*, etc., June to October 1871.

From M. ALGLAVE.—*La Revue Scientifique*, No. 22, 1871.

From the SOCIETY.—*Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire*, 1870.

From the SOCIETY.—*Report of the Leeds Philosophical and Literary Society for 1870-1.*

From the EDITOR.—*Nature*, to date.

From the Rev. W. HARPLEY.—*Report and Transactions of the Devonshire Association*, July 1871.

The following paper was read :

On ANTHROPOLOGICAL COLLECTIONS *from the HOLY LAND.* No. II. By Captain R. F. BURTON, F.R.G.S., late H.M.'s Consul at Damascus.

MR. PRESIDENT AND GENTLEMEN,—I propose this evening, with your permission, to resume the description which was begun during our last meeting ; and I may open with remarking upon the favourable reception given to it by the press and the public. This is at once proof and earnest that our study, Anthropology, is growing, and will grow, in general esteem ; and we are encouraged to hope that within a reasonable time it will take rank as the most interesting of all studies. The great problems reserved for Geography to resolve are now few : the Polar Seas ; parts of China and Japan ; the islands of the Indian Ocean ; and a white patch in Africa, which I would willingly darken. But these done, only details will remain, and details can hardly be expected to arouse enthusiasm. With us it is very different ; and the field of discovery is practically unlimited. Every few years open up another chapter of prehistoric lore : with the clue in our hands we can safely thread the labyrinths of antiquity, and we must invert Palgrave's eloquent words, "That speechless past has begun to speak, the lost is no longer the utterly lost, the gone is not gone for ever."

No. 2 Lot.

List of Mr. Rattray's Collection presented to the Anthropological Institute.

28 fragments of skull bones, remarkably thick, and therefore presumed to be of old date.

1 jaw bone and part of a skull ; this appears to be comparatively modern, and may come from the neighbouring Moslem cemetery.

9½ old copper bracelets (aswár).

1 copper pin.

1 fragment of brass bracelet.

2 bits of arm fibulæ.

Part of a buckle.

3 small coins.

15 bits of lachrymatories, the glass being highly iridescent, and of almost the consistency of talc.

4 pieces of old Syrian majolica, the usual type of what was made at Damascus by the Tartars from Kashan, who accompanied the several invading hordes. Hence the fine "Persian tiles" are still called "Hajar Kishání" (for "Kashani"), stone-ware. They may generally be divided into three qualities, according to their age, which in no case can date before A.D. 1400: 1, the best are easily recognised by the bright colours and the glazing, which looks like a plate of glass; 2, the middle class, is inferior, but still good; and 3, the worst, is the modern, showing poor colours and a weak attempt at vitrification. The specimen from the Harem of Jerusalem, which I now exhibit, seems to be of the second class.

1 bead of cornelian (akfk).

1 roundish bead of gum, probably Sandarus of the Sinaubar (P. Halipensis?).

1 black bead.

1 green bugle.

1 double bead.

3 blue bugles. These beads should be submitted to some West African merchant of long experience, who can compare them with the "Popo", so highly prized in Western Africa. This spindle-shaped or double cone specimen is ground.

4 beads of sorts.

Mr. John S. Rattray built a house at a place where the eastern slope of the Libanus falls into the Cæle-Syrian Vale, called Sáhib el Zamán (Lord of the Age); in January and February 1870, he happened to open a hollow to the south, which proved to be an artificial cavern, with a shaft or air-hole above, and containing five loculi; two only are shown in the accompanying sketch by Mrs. Rattray. Subjoined is a ground plan of the cave, which faces towards the Buká'a, or Cæle-Syria; the corpse furthest to the west enjoyed a loculus to itself; three compartments had their greater length disposed nearly due north and south, whilst the two others ran from east to west. The heads or feet of those occupying the latter would, therefore, have fronted Meccah, showing that they could not have been Moslems; on the other hand, they may have been Jews, who make the feet front Jerusalem, so that, on arising, the dead may face the Holy City. Each

body was deposited within six slabs of cut stone. The bones crumbling when exposed to the light, were reburied; but I persuaded Mr. Rattray to dig them up, and to continue his interesting researches. In one of the skulls a tooth was found, but that disappeared.

The Sahib el Zamán represents, according to some, Hezekiah, who is commonly supposed to sleep with his forefathers at Jerusalem. The tomb is in a ruinous state; but it is still visited by votaries, who, wishing to be cured of ague and fever, the plague of Cæle-Syria, bring with them a little frankincense and an abundance of faith, pass one night here, and return to their homes whole. The cemetery around is, doubtless, of high antiquity, and many skeletons have been thrown up when digging the adjacent fields.

A few yards in front of Mr. Rattray's house, and nearer the valley, lies the little village of Karak-Nuh,* the ruin of Noah, and a "splendid ruin" Noah's is. It is inhabited by one family of Roman Catholics, with sundry Maronites and a majority of Mutawalis (Shiah Moslems), who are kept in pretty strict order by Christian Zahlah. This sleepy little Rip van Winkle place, with stone houses, and without trees—they cannot survive the ants and worms—contains the tomb of Noah, which does not, however, bring in as much revenue as its size entitles it to claim. The dimensions are one hundred and four feet ten inches long by eight feet eight inches wide and three feet three inches high. The venerable votary of the vine was, therefore, of nine-pin shape, and hardly so well proportioned as Sittná Hawwá, Our Lady Eve, at Jeddah. The sharp-ridged grave is of masonry, covered *honoris causâ* with the usual ragged green cloth, and the dimensions of the long room, whose length is filled up by the tomb, are ten feet two inches in breadth by eight feet three inches high. Evidently the section of an old aqueduct has been pressed into doing duty as a patriachal grave. Outside there is a small paved court, with a "mihrab" (prayer niche) and a domelet. The place commands a fine view of the luxuriant valley, and is a favourite with those who wish to "smell the air". In the dark store-room of an adjacent house lying southwest of the tomb, Mr. Rattray found the following Latin mortuary inscription, which speaks well for the longevity of the man with many names:†

* There are many Keraks in the country: the most celebrated, perhaps, is that which occupies the site of Kir, an ancient capital of the Moabites, near the lower extremity of the Dead Sea.

† Mr. Rattray also copied, at the tomb of Nabi Shays (Seth, son of Adam), the fragmentary *VETTIVS BAGATAN VIXIT ANN.*, which shows that that part of the Anti-Libanus was also occupied by the Romans. The stone, I believe, has lately been destroyed.

CN. IVLIVS L. F. FAB.

RYFVS P. P.

HIC. SITVS EST. VIX.

ANNOS LXXXIV.

Half an hour west of Karak-Núh lies Mu'allakah, meaning the "dependency"—that is to say, suburb (of Zahlah); the word is, in fact, our "hanger", as applied to hanging woods. It is new, as Karak is old, having been built and colonised by the Amír Bashir Shiháb, when that peremptory personage was offended by the Sectarians who reposed under the shadow of the patriarchal wings, and its mud huts might have sprung up like fungi in a night. The lower part suffers severely from ague and fever, the effect of poplar groves, of superabundant water, and of the barber: the latter sometimes bleeds his two dozen a day, till the place looks as if, after a heroic defence, it had just been taken by storm.

DESCRIPTION of portions of SKULLS from SAHIB EL ZAMÁN (*the so-called Cave Tomb of Hezekiah*), from MR. RATTRAY'S COLLECTION. By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital.

THE specimens presented by Mr. Rattray, extracted from the tomb of the reputed Hezekiah, are belonging to at least three individuals, all being large and powerful athletic men. The occipital bones are indicative of the existence of three separate individuals, one of whom was large and powerfully athletic, as shown by the enormously hypertrophied condition of the bones, the great thickness of which indicates the existence of a man of large stature, and, to judge by the fractured frontal bone, of low forehead and dolichocephalous skull. That these remains are probably Jewish, the method of interment seems to indicate. That one of the three skulls can be identified with the remains of the Jewish king, or any other especial individual, is of course a matter of widest conjecture; but that they indicate the *débris* of some ancient king, patriarch, or other person of consequence, there can be no doubt.

The lower jaw of a young negro and a fragmentary occipital bone are also found in the Rattray collection. These indicate an individual of about twelve years of age, but in which the negro characters are markedly prominent. The large portion of animal matter still present in the bones shows that they have not long been interred, and the individual was probably alive twenty years ago. The occipital bone is, by its degree of ossification, probably referable to the same individual as the lower jaw belonged to.

No. 3 Lot.

Bones found at Ma'alúlah.

1 jaw bone, with chin much cloven: this "Red Indian" type might belong to a Patagonian.

1 lower jaw and part of calvaria (in two pieces); the distance from the eye orbit to the upper jaw appears abnormally small.

29 fragments of calvaria.

2 teeth.

1 rag of old stuff, apparently everywhere used for sepulture.

The site of this find (Sept. 26, 1870) was at the upland village of Ma'alúlah, distant three hours from the large Greek convent of Saidnáya. On the left side of the Wady, just below the junction of the Fijj or gorge of Santa Tekla, is the site of a large old necropolis, wayside as usual, upon the lower road to Yabrúd, distant two hours. The tall cliffs of reddish-grey stone, breaking into a chalky white substance, stand perpendicularly at the sky-line, the *débris* below assuming the natural angle; and at the base of the latter are disposed immense masses, shaken down probably by earthquakes. Several of them are pierced for sarcophagi, disposed at different angles, one containing as many as eight; another has rude steps running up to the tomb; whilst a third shows two carved niches, each with two busts and the remnants of an inscription, ENAIIAKEIENI, which should be read in a better light. The bones and rag were found covered with a layer of earth in a boulder fronting to the south-east, and with a profile somewhat suggesting a huge faceless head. On the right side of the Ma'alúlah Valley are also four large fallen rocks pierced for "deep loculi" and resting upon the conglomerate.

The situation of Ma'alúlah is peculiar, even in Syria. The tall caverned cliff-ridge of Marmarún and Dinha, and the nipples of Rankus—a caricature of the Cintra Mountain-outline viewed from the sea—are here prolonged west; and the line is split by two Fijj (*Cluses*), deep transverse gorges caused by fracture at right angles to the strike or direction of the chain. The Fijj el Sharki (Eastern), which should be called Northern, bears from the junction 15°; the Fijj el Gharbli (Western), 273°. The town, with its streets like mountain torrents, stands between them, at the south-eastern base of the bluff, which the two gashes insulate from the rest of the cliff-ridge; it runs up the lower slopes precipitous as Safet or Baylán, and above it, at the sky-line, is a perpendicular palisaded reef, much weathered, but showing marks of old carvings. Below the settlement is the great Wady of glaring white chalk, with its ribbon of cool deep shady green, the result of dense walnuts, tall poplars, and abundant water, which refresh the eyes like a bath. The peculiarity of the

Ma'alûlah Valley is, that it produces the *Fistuk* (pistachio), a tree here unknown: a specimen was shown to us at Mukhtara in the Libanus, but it was a fancy growth. The pistachio tree, whose fruits are the "nuts" of the A. V. (the Hebrew *Botnim*), flourishes chiefly in the district about Aleppo; it is extremely rare in Palestine proper, although a few trees, evidently transplanted, have been found near Jerusalem and Bayrut. All the trees scattered in the lower part of this valley, several of them showing more than one trunk supported by the same roots, are old, from afar much resembling venerable figs, but with fleshy ovate leaves attached to a red stalk. I did not see a single young tree. The green pistachio is a luxury, but this year (1870) all are *Hâil* or barren, and they will not produce till the next. The same is the case in many parts of Syria with the olive. Does it show that the growth is not quite at home?

It is worth the traveller's while to thread the two Fijj, in order to understand the lay of the land. Beginning at the western, and passing up the roughest of streets, the path strikes the left bank high up. On the right is a cavern, with a breast-work of rough stones, and the remains of a ladder with sixty rungs. In this Husn or fort the Christians hid their women and children during part of July and August of the massacre year of 1860; and they were aided against the Moslems of the adjacent country places, who repeatedly attacked them, of course under order of the local government, by their Moslem fellow-villagers. This is one case out of many showing how well the two faiths can live together, were it not for the intrigues and the divisions bred for its own selfish objects by the authorities. It is as if, in order to hold India, we systematically fomented all manner of disturbances between Hindu and Moslem. Beyond El Husn, the gorge becomes wild; the torrents, which descend from four places to the west, must now be shallow, but they show a high old watermark, and a few trees are growing in one place by its side. The path then appears to be a stone staircase, with deep holes for the horses' hoofs. Reaching the summit in 15', and turning north, with the Sultani or modern high road to Damascus on the left, the traveller finds the monastery of Mâr Sarkîs, St. Sergius, a dome of common plaster supported by stone walls, with horizontal beams of wood let in, the custom of Persia as well as of Syria. Around it, to south-east and north-west, is a scatter of mortuary caves. The largest and best shows a niche with scallop-shell arch; another niche surmounted by a triangle containing a circle; an eagle with spread wings fronting west; and a similar figure upon the roof. All the inscriptions were defaced, and I could read only the familiar beginning ΕΤΟΥC.

The people, who were sledging Sumach, pointed out to me, above Mar Tekla, the place where Mir Mohammed El Harfushi, escorted only by twenty to twenty-five horsemen, finding himself pursued by a detachment of five hundred Turkish cavalry, rode up the slope, dismounted, and deliberately pushed his favourite mare backwards over the cliff, dashing her to pieces rather than allow his enemies to boast having captured her. He then attempted to scale on foot the left flank of the valley; but he was seized and led away to Damascus. At the beginning of the present century, he would have learned the use of the bow-string; but in these *tempi più leggiadri e men' feroci* he was merely exiled to Broussa. After a time, he fled disguised as a priest, obtained pardon at Damascus, and died at Sargháya—I am acquainted with his son Mir Ta'an. Mir Mohamed is described as a man with red hair and blue eyes, whose look suggested the cut-throat; he was, however, a fluent speaker, and the peasantry, who did not like him, but who have learned to like the Turkish rule less, now speak of him with regret.

I descended the right side of the "Eastern Gorge" by a precipitous path down a rock face lined with caverns. The large natural arch of stone which spanned it fell some forty years ago. At the bottom is a little rill, trickling from the upper gardens of the Convent, and by its shady side grows the Sha'ar Már Tekla (hair of Sta. Tecla), the maidenhair fern. It will be remembered that when she was flying from her idolatrous father, this Fijj opened for her a passage. I followed her steps to the convent which bears her name, mounted a multitude of stairs, passed up and down a variety of passages, and was shown a dripping of water which afforded her drink, and which still covers the rock with green. People ply the metal cup for Tabarruk—in order to receive a blessing. At right angles to the place of the spring is the saintly cell, now a chapel. After so much of pious reminiscence, it was a change to meet the inmates, who kindly gave me lemonade and coffee; one of them speaking English and showing an English dog, whilst all talked the latest politics, certainly not six months' old.

Ma'alúlah can muster some six hundred muskets; the Catholics number three-quarters of the whole; the Greek Rayyáhs one-eighth; and the Moslems, under their civil Shaykh Diyáb Hammud, about the same. The "Sulútiyyah", as they are termed without reason in official documents, are a fine, tall, and stout race, more like mountaineers than lowlanders; and the brown-red complexions of the girls are pleasing to look at after the yellow and rouge of Damascus. All are, however, unusually unclean, partly being Christians, and *au reste* dwellers in a cold climate. Their houses avoid windows and ventilation as much as possible,

and are capped by real chimney-pots ; whilst cow-chips are dried, as in Sind, for fuel upon the roofs. Substantial walls are easily built with the freestone lying all around them, and the softer material composes their lime and whitewash. Almost every terrace has its plot of a strong smelling yellow flower, called Ward Asfar or Karanful, and of perfumed Rayhán, or herb basil (*Ocimum basilicum*), in which they seem to delight as much as Hindus. There is no such thing as a Suk, or bazar, and I had trouble in buying a bottle of vinegar, unjustly entitled wine. Yet the people applied to me for a school : they were referred to my friends Messrs. Wright and Scott, of the Irish Presbyterian Mission at Damascus, and I only hope that they will succeed.

Bilinguals, but rather Bæotians than Tyrians, all at Ma'alúlah, Moslems as well as Christians, speak Syriac, which they profess to have derived from their ancestry (Jaddan Ajdád). There are only three hamlets in the country where this lingers, the others being Jubb "Adín* and Bak'há'a. The old tongue is excessively corrupted, but it is still unintelligible to foreigners. Dr. Socin, a young Swiss traveller, whom I met at Damascus, and who has lately made a hit by discovering, at the Chaldean monastery of Mardin, the Kalilag ve Damnag, a complete translation of the original Panchatantra, spent two months with a friend in the Sarkís Convent, and learned all that he required. The following is a specimen of the half Arabic Syriac now spoken at Ma'alúlah.

Bohr, the sea (A., Bahr).

Bohrata, a tank (A., Buhayrah, Birkah).

Dayrá, a monastery (A., Dayr).

Ghauzta, a walnut tree (A., Jauzeh).

Hosoná, a horse (A., Hosan).

Humúra, an ass (A., Himár).

Huwwa, white (A., Howareh, chalk).

Lahmah, bread. (This is the Hebrew form, *e.g.*, Bethlehem ; in A., Lahm signifies flesh.)

Paytá, a house (A., Bayt).

Shinna, a tall fort-like rock.

S'jartá, a tree. (A., Shajar : hence the modern Syrian says "sajar" upon the same principle which makes some of us prefer "srimps" to "shrimps".

* Jubb, often corrupted to "Jibb", is a common prefix to Syrian villages ; it means a well (Jubb Yusuf), pit, or water-hole, with or without surrounding vegetation. I have not visited Jubb'Adin, and can only repeat the information picked up at Ma'alúlah : the three Syriac-speaking villages are usually said to be Ma'alúlah, B'ak'ha', and Ayn-el-Tiriyyah. Since the above lines were written, Mr. Tyrwhitt-Drake writes to me : "Syriac is spoken only at Jubb'Adin, Ma'alúlah, and Bak'ha' : they understand it a little, but do not regularly speak it at Ayn-Tinieh.

Tsalja, snow (A., Talj).

Tutshá, a mulberry tree (A., Tut).

Torá, a mountain (A., Tur).

The words are evidently harsher than the corresponding Arabic; and we find the elements of the "Iltiká el Sákinayn", the meeting of two quiescent consonants, which is so contrary to the spirit of the Koranic dialect, and which, especially at the beginning of words—*e.g.*, 'Bráhm for Ibráhm—where it is most easily remarked, first strikes the ear of the Arabist landing at Bayrut.

DESCRIPTION of SKULLS and other REMAINS from MA'ALULAH, SYRIA, discovered by CAPTAIN BURTON. By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital.

THE remains before us are of two descriptions, one white and bleached, and one which has been exposed for years to the erosive influences of interment. The first two specimens described belong to the first category.

1. Fragmentary occipital bone of young individual, possibly female. The marks for the attachment of muscles are not strongly marked.

2. Mandible (with canine tooth in place) of a large and aged individual. In the remarkably oblique ramus of this jaw, the shallow sigmoid notch, and the pointed coronoid, it bears some resemblance to the celebrated Moulin-Quignon jaw. The chin is prominent and "mesepicentric".* The alveoli for the molar series are small, and that for the third molar has been smaller than that for the second. The canines have been normal in form. The mylohyoid notch is deep. The two condyles are broadly divaricated; and the owner has probably been brachycephalous.

3. Facial bones of a large and tolerably prognathous person. The palate has been broad and shallow; and the molar teeth (two of which, and a premolar, remain in place) are large and worn. The orbits have been large and squared; the nasal bones large, thick, and curved; the nasal orifice of normal dimensions.

4. Frontal bone, with portion of parietal, probably of a female, with large frontal sinuses and prominent frontal bosses. The bones are very thin.

5, 6, 7. Portions of parietal bones, the one marked 7 being thicker than the other two.

8. Left mastoid process and petrous bone of a large and athletic male. The mastoid groove is deep, and the auditory foramen large.

* "Anthropological Review, vol. v, 1867.

9, 10. Portions of brim of ilium.

11. Molar tooth, not referable to the mandible above described.

If we endeavour to obtain any definitive race-characters from the present remains, we can only conclude that they belong to not more than three individuals, and that there is not the slightest resemblance with any of those described elsewhere from Palmyra. They do not appear to have belonged to what is called the Phœnician type. Of the probable age of the interment, I can only say that the condition of the bones indicates considerable antiquity.

No. 4 LOT.

From the Dayr Mar Musa el Habashi.

Two bangles of twisted glass, blue and white banded, called Dumluj, not Aswár (metal bracelets), and worn upon the arm, often till rolls of flesh are formed above and below them. The larger is much oxidised. It was bought from a girl, who had picked it up in a cemetery near Nabk where the grave-diggers were at work; all the rest were broken. The material of both resembles Hebron work, but is of better manufacture than the modern. They are, therefore, locally called Dumluj Akik (carnelian), to distinguish them from the ordinary Dumluj Kizáz.

Five skulls, probably of priests; one has the skull and mouth stuffed with wool.

These relics were found (September 28th, 1870) in the Wady Mar Musa el Habashi. This rocky Fuimara, a bare line of reddish and white limestone, in places curiously streaked and banded, appears, from the great number of mortuary caves, large and small, which riddle its right bank, to have been the conventual cemetery. Some of the pigeon-holes are at considerable elevations, and the stone has fallen away so as to render them almost inaccessible. The bodies were placed within loculi of cut slabs, after the ancient custom of the country (as in Mr. Rat-tray's cavern), and they are mostly sitting, still the ecclesiastical position. One skeleton was wrapped in the Mas'h, a coarse canvas which touches the flesh, with silk outside. Amongst them women appear to have been buried. I collected in this gorge five skulls, and I might easily have collected fifty. The children of Nabk, Dayr Atiyah, and other neighbouring villages, are, however, in the habit of passing their holidays in skylarking amongst the graves, and they have already done (anthropologically speaking) considerable damage.

The Fuimara in question draws to the east the upland *massif* which divides the Kara-Nabk terrace from the great Jayrud-Palmyra valley.* The range is locally known as the Jebel el

* These three gradients have been already described in chapter iii.

Sharki, or Eastern Mountain, which must not be confounded with the true Anti-Libanus, from which it is separated by two great steps. The name of the highest point, however, Jebel Khāzim, from which the Halimat el Kabú bears 317° mag. and Jayrud 205° mag., might be applied to the whole block. It is a long, lumpy and uninteresting line, averaging 5500 feet in height. When viewed from the west, a shallow bulge in the centre, denoting the Wady Sha'ab, which opens opposite the Dayr el Atiyah village, divides it into two sections, northern and southern. Seen from the eastern and lower gradient, the Palmyran valley depressed about a thousand feet, it becomes a far more picturesque feature, walling in the long narrow plain which runs from Jayrud to Karyatayn. The monastery is perched on the left side of its gorge, and here the riding-path, a narrow ledge and ladder of slippery stone, ends suddenly; the good monks preferred keeping a precipice of some five hundred feet in front of them to ward off the Bedawin who ride the lowlands. We exchanged a shot or two with some fifteen of these gentry, mounted on mares and dromedaries, but more for bravado on both sides than with the intention of doing work. It is strange that of all those who have passed almost under the walls of this commanding building when *en route* for the Zenobian city, not one appears to have noticed it: they were probably too much occupied with the material hardships and the discomforts of the journey to look out for themselves, and they certainly had no guides who would look out for them.

Már Músá el Habashi (St. Moses the Abyssinian) was a hermit from the country of Prester John, who lived upon this mountain, and who died here in the odour of sanctity. The first monastery, distant about an hour and a half, or six miles, from Nabk town, was built over his remains by the Emperor Heraclius, A.D. 610 to 641, and it has, they say, been four times destroyed by sectarian hatred. Its annual pilgrimage was well attended until the last five or six years; but since that time the incursions of the Nomades have been an effectual bar to pious visitation. The holy man's thumb is kept in a silver box, and is kissed by wives who would become the joyful mothers of children. I managed here to secure an interesting "Mabkharah", a brass thurible for burning incense, whose art shows the extreme of quaintness. It is now passed round for inspection.

The western face of the building is in two compartments; and, as is still the custom, wooden beams are disposed horizontally about the masonry; the wall is battlemented, so as to sweep the only approach; at the south, however, an active scaling party, with some mechanical aid, might command an entrance. Over the single low door of iron, which is not easily moved,

even with a key, there is a Syriac inscription. A passage, with a well or cistern on the right hand, leads to the church. The latter is in the rudest Græco-Syrian style with the vilest of daubs upon the iconastasis and the walls. From the court a flight of steps runs up to a rickety terrace, which commands a fine view of the Palmyran valley; and an inscription, half Arabic half Syriac, acknowledges the piety of a certain Matran (Bishop) Matta, who restored the building in A.D. 1799. Here we can distinctly see the White Mountain and the dark mound that form the Báb, or gate of Palmyra; the Sabkhah, or Malláhah, a succession of salt-pans, north-east of Jayrúd, which every one mistakes for ruins; and the ranges to the south-east, the Jebel Wustani, Jebel Zubaydah, and Jebel el Afa'í, which culminate in the tall horizon-wall supporting the Abd wa Abdah (slave and slavess), and ending the Anti-Libanus in the direction of the Desert.

Retracing our steps to the head of the Wady, and bending first to the north and then to the north-east, we pass the highest ledge of the range, Jebel el Kházim, before mentioned. From this point, striking the Wady el Mudakhkhan (Smoky valley), and descending some four hundred or five hundred feet to the south-east, we presently reach El Mudakhkhanah (the Smoker). Here the stone is rough, and cracked into cubes, which further weathering converts into plates, and these flakes break easily as mica. Scattered amongst the rocks are a dozen cracks and crevices, with lips blackened, and the vegetation around them parched and charred. Apparently, however, there is thorough combustion, as no trace of brimstone remains. That some of these apertures are deep, the sound of dropped stones told us; at this season they are rather cold than hot, but all the people assured me that a dense vapour issues from them after rains. The guides spoke of a large pit, but could not find it. I made them build a cairn for the benefit of future travellers, who will, it is hoped, be more fortunate.*

No. 5 Lot.

Collected at Hums.

Broken skull.

Fragments of face-bones.

Mortuary lamp.

The skull and bones were picked up (February 25th, 1871) at the ancient Roman baths, lying to the north-west and outside of Hums, Emesa of old. Excavations were going on for the sole purpose of removing the stones; the fine mosaic spoken of by travellers had already disappeared, and in a few years the place will be a mound of earth. This Hammám was probably out-

* Dr. Carter Blake's notes on these remains are deferred.

side the old city, which, however, extended far to the north, and was fed by the Sákiyat el Balad, or town-conduit, which sets off from the Orontes a little below the bridge at Bába Amru. Just before my arrival, a votive altar, with illegible inscription, had been dug up a couple of hundred yards beyond the gate. Hums is still liberally supplied with well water; but whilst that to the east is sweet, all to the west and north, especially about the suburb containing the tomb of Sayyidna Khalid, is brackish. Beyond the Sakiyat stands the noble ruin known as Burj el Sauma'ah, Tower of the Oratory, and supposed to have been a prison, or castle. The square pyramidal top has wholly disappeared, and the western part is now strewn upon the ground. The same will soon be the case with the Kamú'a or Pillar of Hurmul, which Mr. Porter's illustration ("Five Years in Damascus", p. 308) shows to have been complete in 1853. There are no traces of the Greek inscription seen by Belon, which proved the Hums ruin to have been a cenotaph of Caius Julius (Cæsar), buried in the Mausoleum of Augustus. Pococke (chap. xiii) describes it when still comparatively well preserved, being forty feet square and thirty within, double-storied, and with five pilasters on each side, Doric below and Ionic above. Now nothing remains but a fragment of the northern wall, and smaller sections of the eastern and western flanks. The material, like that of the Balnea, is of flat Roman brick, set in concrete hard as stone; it is faced with basaltic squares, each about four inches, forming, with alternations of white limestone, diaper-work of rough mosaic. To the north, there are traces of five pilasters, but only the two central appear, and it is lined with five shallow cornice bands of the same black material. Viewed from the south side, the building seems to have had two vaulted stories, if not more. The inside of the western front shows a rude arch, with imperfect keystone,* like the massive vaulting in the lower part of the Sidon Castle. To the north and south of this cenotaph is a large modern burial ground: indeed, the cemeteries of Hums are more extensive than the city, and probably this has been so used from the most ancient times.

The mortuary lamp was taken from one of the cemeteries to the south of the great mound which bore the Temple of the Sun. To the south-west is the graveyard Jabbánat el Asi: here I was shown a solid basaltic door, like those of the Hauran, the Jebel

* I am at pains to imagine how the popular opinion about the Romans ignoring the true keystone was formed. The utmost that can be said of classical arches in Syria is, that the keystone is not an invariable feature; generally there is but one, more rarely we find two. The massive remains of the semi-circus at Baysan (of old, Scythopolis), in the Ghor or Jordanic valley, may be quoted as one of the best instances.

Durúz, and the 'Uláh, with an iron ring soldered into the outside. On the south-east is the tomb ignorantly supposed to lodge Ja'afar el Tayyár; it may have been tenanted by his descendants: around it lie the graves of the Jenádilah Shaykhs, descended from the celebrated Sufi Ahmad el Rufai of Baghdad. Near the south-west angle of the moat is supposed to lie the poet Ka'ab el Ahbár; and in this part many of the graves, lined and roofed with slabs of basalt, have yawned open, exposing their inmates. All, however, appearing to be modern and Moslem, the bones were left in peace.

Hums is one of the most interesting towns in Syria, not only on account of its past history, but for its present remains; and being somewhat out of the reach of tourists, it is still a fair field for the collector. A certain Konstantin Khuri bin Daud, in February 1871, sold me his copies, in ten sheets, of the four famous stones inscribed with Arab (?) hieroglyphics, (?) and scattered about the city of Hamah: they will in due time be exhibited to you. This local Dryasdust possesses a book in which he has entered for his own use, more or less correctly, 398 inscriptions of sorts—at least that was the number he gave me—existing in and about Hums, chiefly Greek, a few Latin, and some flowery Cufic. He led me, however, a long wild-goose chase in search of a Hebrew epigraph, which proved to be the usual disappointment. According to him, the eastern regions between Hums and Palmyra abound in ruins, basaltic all, like those of the 'Ulah; and for the small sum of five hundred piastres per month he volunteered, provided I would supply him with a guard, to bring back a rich store of "written stones" and *'antikát*. Of late, however, the Sublime Porte has adopted the highly invidious measure of forbidding all antiquities to be exported, under the pretext that they are wanted for a home collection. Were this the case, no complaint could be made; the step has been taken by civilised powers. But here it means simply a bakhshish *ad valorem* to the local governor, and the place for housing such valuables is yet *in nubibus*. It will be time to enforce the order when the museum, for which a Greek Rayyah has obtained a firman, comes into existence. Meanwhile interesting remains are left in the streets to be broken by boys; and foreigners are subject to all manner of annoyance. The Custom House at Constantinople seized a collection made by Messrs. Drake and Palmer when *en route* from Athens; it was not without difficulty and loss of a month that the plunder was recovered by their agent Mr. Lawson; nor were their expenses paid.

The most interesting question concerning Hums is the site of the gorgeous Sun Temple, from whose priestly servant proceeded four Cæsars and four Augustæ. Modern and perfunctory visitors, "our blind travellers", as they are characterised by Gibbon when

lauding Volney, have, of course, taken scanty interest in the matter; it is, however, curious to see that even Pococke and Maundrell,* writers of a very different stamp, have equally neglected it.

Yet the local legends speak clearly enough. The Right Rev. the (Greek) Bishop Dionysius of Trebizond, who now occupies the throne of Silvanus the Martyr, in answer to my inquiries, at once pointed to the Kala'at, or great mound. All declare that it was formerly in the centre of the city, which has now clustered to the north, leaving on the south only ruins and cemeteries. The old enceinte was pierced with six gates, bearing the names of the planets, the sun being in the centre; and we find this number perpetuated in the modern town.† It is added that the Christians, after establishing their faith upon the ruins of paganism, converted the Sun Temple into a cathedral. Hums was captured, some fourteen years after the Hijrah, by the fiery and fighting Khálid bin Walid, whose mortal remains were certainly interred in the northern faubourg, and the destruction of life and property was, according to local legend, terrible. In A.D. 1098, the Crusaders became masters of it; and finally they were driven out, after eighty-nine years' tenure (1187), by the Kurdish Sultan Salah el Dín—the latter, according to Pococke, probably fortified the Temple of the Sun.

It was, therefore, with more than usual curiosity that I proceeded to inspect the mound, which is still crowned with a tiara of torn and rent towers, some of them imposing even in the sadness of decay. The material is a hard yellow clay which, when tunnelled into, stands without supports: this may be seen at the southern talus, where a passage about a hundred paces long is used by the thread-spinners. Ascending by the easy zigzag from the Turkoman Gate, the perpendicular height is found by aneroid to be one hundred and twenty feet. The summit is an uneven broken oval, apparently covering a mass of ruins; the greater axis, from north-west to south-east, is 435 feet, and the conjugate, from north-east to south-west, is 375. I counted three wells sunk in the waving ground.

* Maundrell does not appear to have visited it, or, perhaps, to have published anything about it.

† The modern gates are: 1, Bab el Suk, to the north, showing on each side traces of ancient walls; 2, on the north-east, Bab Tudmur (Palmyra), with large blocks of limestone to the south, like those in the enceinte of Damascus; 3, south-east, Bab el Durayb, leading to Karyatayn; 4, south, Bab el Subá'a, showing on the jamb ancient carvings of grapes and leaves; 5, south-west, Bab el Turkoman, because the tent-dwellers used to camp opposite it; and 6, Bab Húd, corrupted from Bab el Yahúd (of the Jews), whose quarter was here till they were expelled the city. Now the "tribe of the Emesani" do not allow, as is said of the New Englander, a Jew to live and thrive amongst them.

When "Saladin" took the place, he seems to have thrown a revetment of masonry from the top of the hill to the bottom; many traces of it remain, especially on the northern, the eastern, and the south-eastern sides. The angle of this glacis was 45 deg., so as to prevent scaling, and the scarp now descends to the bottom of the fosse, which is sixty-two feet broad, and provided with a perpendicular counterscarp of masonry, some twenty feet high; moreover it is not connected with the town moat. The material of scarp and counterscarp is basalt, set in a concrete of mortar and limestone, and the blocks become notably larger as they descend. In places where the hard clay has been washed from under, it stands up like piecrust, outside black and white inside, allowing free passage like a covered way; in parts, also, it is bound together by older pillars of basalt disposed horizontally, as ties or thorough-bonds. Labour is unspared, and the masonry evidently dates from the same time as that of Cæsarea Palestina (Strato's Tower), and the outer western works of the tower of David, near the Khalil gate of Jerusalem. Traces of this same kind of revetment may be found on the Tells of the 'Uláh; at Tahúnat el Hawá, the northern point of Mount Girízim; at Santa Hanná, near Bayt Jibrín; at Baysán (Scythopolis); and at the celebrated Tell el Kadi (Dan)—to mention no others. The walls of Hums, although made of the same material as that which protected the mound, are apparently of much later date.

This immense revetment formed round the rim of the mound a regular crest, varying from two to seven feet broad, whilst below it is ten or twelve; the rim is broken by towers and bulwarks within easy bowshot of one another. Of these "Burj"* there are now seven important remains. The long *meurtrières* intended for archers, not for matchlock men, the arches and the domed casemates, prove its date; whilst the old basaltic pillars horizontally couched in the solid masonry, the large blocks of white stone, the imposts of snowy marble, and the columns of fine Syenite and grey Egyptian granite, show what has become of the Sun Temple's splendid remains. After several days chiefly spent in searching about this mound, I was fortunate enough to find near the sixth Burj, beginning at the round white tower above the Turkoman Gate, a place where the stone revetment and the modern *débris* had fallen away. Here, facing the north-east country, stood, apparently *in situ*, a Doric pilaster, which seemed to have supported an arch: it was about six feet below the actual level of the plateau, and the descent, which is still used by the silk-spinners, looked as if it had anciently served as a ramp or approach. Before my friend and fellow-

* The Arabic equivalent—I will not attempt to argue the priority question—of the Greek *πύργος*.

traveller, Mr. C. F. Tyrwhitt-Drake, made his excursion to Hums and Hamah, I gave him details about the position of what I cannot but believe to be a remnant of the great shrine, and requested him to verify my observations: he searched everywhere without finding it, and he came to the conclusion that it had been covered by an earthslip, or had been broken up for building material. In these North Syrian towns, the destruction of old buildings is unpleasantly rapid: scores of old basaltic rafters, torn from the 'Uláh ruins, may be seen in the streets of Hamah. I would willingly offer a plan of this most interesting site; but it is far better left to the regular survey of Palestine, which will doubtless take the opportunity of making excavations.*

No. 6 Lot.

Collection of Flint Implements from near Bethlehem.

1 Round flat hammer of porous basalt, shaped somewhat like the clay spindle of Inner Intertropical Africa, and remarkable because wanting depressions for the grip of thumb and forefinger; nor is it grooved as in the Aztec specimens.

1 brass or copper needle with the central eye.

1 bone spicula (showing that copper or brass, bone and iron, were used at the same time).

2 fragments of bone and a human tooth, found with the flints.

6 fragments of arrow-piles or spear-heads.

11 fragments of knives, flakes of silex, mostly three-planed above and with single plane below.

2 specimens marked doubtful, probably unfinished chippings.

This find took place in 1866-67, at Bayt Sahúr, a village about twenty minutes' ride to the east of Bethlehem, well known to travellers because it is on the way to a favourite place of visitation. At the distance of an easy walk below the hill lies the Shepherd's Cave, a tunnel in the ruined Greek monastery Dayr el Ra'iyán (dei Pastori), where the angel appeared, and here also is the valley where David is supposed to have kept his father's flock. The scenery of this Beulah is certainly remarkable in the bleak and barren highlands of Judea: the valley whose background is the mountain wall of Moab shows extreme fertility; its broad slopes of wheat-fields are dotted and clumped with olives struggling down to the large square shrubbery about the Shepherds' Cave; the extensive vineyards produce the sweetest grapes, whilst the many convents to which the stone causeway led have fallen into picturesque ruins.

The site of the find is a ledge of chalky limestone, with a

* Dr. Carter Blake's notes on these remains are deferred.

drop of rock and a bed of garden stuff to the north; whilst behind, or southwards, are steps of higher ground, over which runs the rugged road to Bethlehem. The chalk, as usual throughout the country, abounds in silex, but the material is not homogeneous; it occurs in lumps striated white and brown, or white and black, and it nowhere shows the buff colours of the flint implements now exhibited to you: the latter, therefore, were made from a different formation, possibly brought from the Moab plateau, and even further south. The only material positively identical with these is that brought by the late Major Macdonald from the turquoise mines of Mount Sinai, and exhibited at the Jernyn Street Museum, No. 46, principal floor, labelled "Flint flakes found near some ancient ruins in Arabia Petræa." Of the ten composing the total, three are like many of my specimens, three-planed above and buff coloured, on this point differing from the reddish silices of the Wady Magharah, brought home by the same traveller, and shown to me by Mr. John Evans, of Nash Mills. These ancient mining tools are well described in "Notes on a Geological Reconnaissance made in Arabia Petræa in the Spring of 1858." By H. Bauerman, Esq., F.G.S., Assoc. Roy. School of Mines ("The Geological Journal", xxv, 1869). It may be added to this study, that Mr. C. F. Tyrwhitt-Drake is convinced that the inscriptions of Wady Mukattab, which are *not* the "Voice of Israel from Mount Sinai", were cut with flint implements. The gloss and polish of these Bethlehem implements arise, I presume, from their having been brought from their beds of silicious or chalky sands, and one of them appears to be partly encrusted with carbonate of lime. The darker colours found in Major Macdonald's collection arise from ochreous sands, which would stain yellow, and from ferruginous sands and soils; the red brick earth would give a brown tinge.

Sundry silo-like holes had been pierced in the soft rock, and of these not a few had been broken at the sides. Mr. Tyrwhitt-Drake descended into one, and brought up fragments of human bone, mostly split for marrow (?), suggesting that here also, within cannon-shot of Bethlehem, lived and died a people of cannibals, and adding another instance to the long list of anthropophagous tribes who, at different ages, I believe, composed the sum of humanity. We can here reply satisfactorily to the triumphant rejoinder, "Why don't you find the *bones* of the men as well as their *implements*?" ("Quarterly Journal of Science", July 1871, p. 327.) Scattered around the well-mouths were silex chippings so coarsely shaped that they had been thrown away as useless by the makers. This mine is probably far from being worked out, and a careful examination of the ridge to the west may be rich in results.

The highway begins at Bethlehem with a vile descent of slippery limestone, all steps, holes, and ridgelets, the Caldeirões of the Brazil, but here they are stone not mud, whilst the sheets of rock severely try the horses' legs. Presently we reached (April 12th, 1871) Bayt Sahúr, a filthy little hamlet, containing some fifteen hundred Greek Rayyáhs, three hundred Moslems, and a hundred and sixty Catholics; large bossed stones proved that the place has seen, like almost all in this land, better days. We dismounted at the little monastery, begun twelve years ago, still unfinished, and already named the (Latin) Church and Convent of the Shepherds. The principal, M. l'Abbé Moratin,* whom we afterwards met at Nablus on return from his wild ride, was engaged on missionary duty at Salt, the second *chef lieu* of the Belka Mutessarifik, and the honours were done by his *locum tenens* the curate, M. Simeon Kajabejow, originally, I believe, a Circassian, and educated by the Propaganda.

After the normal pipes and coffee, the good curate led the way to the little museum, an outhouse to the west of the convent, where the collection from the silos was strewn about table and floor. It represented a score or so of large jars of coarse pottery, and classical in shape; mortuary lamps, none of them inscribed so as to be interesting; a few medals; two fine brass (bronze?) hatchets; some bone points for spears or arrows; two round flat stone hammers for chipping the silex; and about two hundred flint implements.

The importance of this discovery can hardly be exaggerated. Flint implements in Syria and Palestine were, before the days of M. Lartet, almost as rare as Hebrew weapons, far rarer than Hebrew shekels, although traditionally known to have been used amongst the ancient Persians and the Greeks. The late Duc de Luynes, a man who devoted a noble fortune to scientific, linguistic, and artistic pursuits, was, I believe, the first to find a few, when "cave-hunting" at the mouth of the Nahr el Kalb, or Lycus River. During twenty months' residence in Syria, I had seen but one specimen, in the possession of M. Peretié, of Bayrut. Since my return to England, I have been more fortunate, and Mr. Augustus W. Franks, F.S.A., kindly forwarded to me the following notes (with illustrations) of the Lebanon Collection given by M. Louis Lartet to the late Mr. Christy.

The curate Kajabejow kindly allowed us to carry off a few specimens, which were presently forwarded for the inspection of the Anthropological Institute, refusing payment and referring us

* He is called Moratain by M. de Saulcy, to whom he gave, on December 11th, 1863, six small *couteaux-scies*, found when digging the foundations for his church: the French traveller writes, "Je suis ravi de posséder ces reliques des temps anté-historiques de la Judée."

to the proprietor. He was of opinion, like those around him, that they were flint knives used by the Jews in circumcision; and I did not care to contradict him. Of this more hereafter. We have since then, through my excellent friend, Mr. Noel Moore, Her Majesty's Consul for Jerusalem, made an offer to purchase the whole collection from M. l'Abbé Moratin, and we are awaiting somewhat impatiently the result.

Amongst the company was a Syrian in a zouave dress of the military, not the fancy pattern, who answered to the name of 'Brahim Hanna Saïd. A native of Bayt Sahûr, he had accompanied the Anglo-Abyssinian expedition, and he had been wounded and invalided during the earlier stage of the Franco-Prussian war. He declared that similar instruments were to be found at Bayt Bassah and at the complicated caves of Khoraytûn (the old Laura of St. Chariton), so long supposed to be those of Adullam, till M. Ganneau, of whom more presently, pointed out the true site further east, at the Khirbat Adalmiyyah, pronounced by the people 'Aïd el Miyyeh, and given in M. Guérin's map as Aid el Mia, at a short distance from the well known Bayt Natif. Jebel Furaydis (of the Garden), *alias* the Frank Mountain, *alias* the Herodeon, a word now known to the ragged sons of the Ta'âmirah Bedawin, and other neighbouring sites, were also, he declared, to the full as rich as Bayt Sahûr. Though we vehemently distrusted his promises of sarcophagi, bone-breccia, human skulls, and many similar curios, we advanced him sixteen francs. He repaid us by bringing a few bad lamps and worse flints, with many promises of better things. These promises not having been realised, we commend him to the attention of future travellers.

This find gave us spirit to search for more, and in early June (1871) my fellow traveller, when riding about the ruins of El Maksurah, near Dhumayr, the north-easternmost settlement of the Damascus plain, picked up an undoubted arrow-head and two specimens of flaked flints.

Since my return to England, my attention has been drawn to a paper by M. l'Abbé Richard.* The part referring to the discoveries of flint instruments in Egypt and upon Mount Sinai is hardly to the point; but I will quote textually and comment upon what regards Palestine.

"Mais les instruments qui méritent, je pense, la plus grande attention, sont ceux que j'ai trouvés à Galgal, sur les bords du Jourdain, et au tombeau de Josué.

* "Archéologie : Découverte d'instruments de pierre en Egypte, au Sinai et au tombeau de Josué." Par M. l'Abbé Richard. P. 540. 1871. Deuxième semestre. "Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences", par MM. les Secrétaires Perpétuels. Tome lxxiii. No. 9 (28 Août, 1871). Paris: Gauthier-Villars.

"Il est écrit dans la Bible, à la fin du livre de Josué, que Dieu ordonna au chef du peuple d'Israël de faire des couteaux de pierre (*cultros lapideos*), afin de circoncire les Hébreux nés dans le désert. La version des *Septante* ajoute que Josué conserva les couteaux, et qu'après sa mort on les mit dans son tombeau. Les traducteurs des *Septantes* déclarent qu'alors les couteaux y étaient encore.

"M. V. Guérin, envoyé en Palestine par le Gouvernement Français en 1863, retrouva ce tombeau longtemps oublié ou perdu, et en établit l'authenticité dans un Rapport adressé à l'Académie en 1865. M. de Saulcy, dans son '*Voyage en Palestine*' (t. ii, p. 233 et suiv.),* confirme les caractères d'authenticité du tombeau de Josué, et dit que les couteaux doivent y exister encore. Etant, l'année dernière, en Palestine, je suis allé visiter à Tibneh le tombeau, et j'y ai trouvé un grand nombre d'instruments, généralement des couteaux. Quelques-uns même, comme on peut le voir, sont encore très-tranchants. Il y a aussi des scies, des pièces plates, allongées ou arrondies.

"Quant aux conclusions que l'on peut tirer en la découverte de ces instruments, les arguments ou les objections qu'ils peuvent fournir aux théories mises en avant par les diverses écoles anthropologiques modernes, je laisse ce soin à de plus éloquents que moi. Je me contente d'exposer le fait à l'appréciation de MM. les membres de l'Académie et des autres savants qui s'occupent de la grave question des instruments de pierre et de l'antiquité de l'homme. Je prie seulement qu'on fasse attention à la ressemblance parfaite qui existe entre les silex du tombeau de Josué, qu'on doit appeler *historiques*, et les silex que l'on veut être nécessairement *préhistoriques*. Cette identité est un fait. J'ai trouvé, entre le Mont Thabor et la Mer de Tibériade, sur un plateau élevé d'environ 250 mètres au-dessus du Jourdain, dans des terrains non-seulement récents, mais à la surface du sol, un hache et d'autres pièces que l'on regard comme essentiellement caractéristiques de terrains tertiaires et quaternaires. Permettez-moi d'émettre une pensée: on veut généralement établir l'âge des silex taillés d'après les terrains; il me semble que c'est le contraire qu'il faut faire; ces sont les silex taillés qui doivent donner l'âge des terrains, comme les fossiles donnent l'âge des roches."

The learned abbé would, I think, unduly limit the use of the flint instruments brought from the tomb of Joshua to one pur-

* M. de Saulcy (*loc. cit.*) places the sepulchre of Joshua near Antipatris and Augustan Cæsarea, the Timnath-Heras (Judges, ii, 9), the Timnath-Sarah (Joshua xxiv, 30), and the *Θαυμασαχαρ* in which the leader buried *μαχαρ* *τὰς περὶ τὴν*. Haras inverted becomes Sarah, and this, by transposing the second and third consonants, becomes Sahar. Possibly "Heras" may be connected with Heraseth (e.g., Kir Heraseth of Moab), concerning which certain details will be given in a subsequent page.

pose, making them all “cultelli circumcisionis.” But how many implements of this nature would be required, even by a considerable body of people, for a couple of generations? It is also evident that more than one of my specimens is the pile of an arrow.

The traditional tomb of Joshua, according to the Moslems and Druses, is, I may remark, very far from Tibneh. We visited Naby Yusha'a on May 16th, 1871. The large mass of building is picturesquely situated upon the western highlands which border the southern extremity of Cælesyria, where the great valley (Arz el Húlâh) is merged into the waters of Merom. The country here belongs to the Metawali sectaries, and until the last few years no Christian has been allowed entrance. The result has been a little loss of *prestige* to the shrine, but a great advance in the cause of toleration.

Entering the strong enceinte of stone and lime by a diminutive door, and passing through the large hypæthral court, we found two whitewashed domes at the further end. The tomb is covered by the western cupola; it faces south-east, or roughly towards Meccah; and it measures in length one fathom and two spans. Under the eastern dome is the Makam Hammad Bey el Asa'ad, a Metawali chief, buried here in A.D. 1280, and evidently quite new. We found the only care-taker to be a fellahah, whose husband was absent, and she did the honours without in any way objecting to such unusual guests.

The following note was read:

NOTE on the IMPLEMENTS from BETHLEHEM.

DEAR CAPTAIN BURTON,—In accordance with your request, I send you a few notes on the antiquities found in the neighbourhood of Bethlehem, which you were so good as to leave with me for examination.

The materials of which they consist are bone, bronze, and stone; but it is mainly with the latter that I have to concern myself. Besides some fragments of human teeth, the bones are only two in number, being portions of the same bone of the left leg of a young ruminant, and split longitudinally, at what time, or with what intention, it seems hard to divine.

The only bronze object is about two inches and three-quarters long, and one-eighth of an inch in diameter, with a perforation apparently punched through it at one inch and three-quarters from one of its ends, which is blunt and rounded. The other end appears to have been broken, so that it is impossible to determine what may have been its original length or form—whether

that of a hairpin, or of a kind of needle for sewing purposes. I am not aware of the circumstances under which it was discovered; but it appears to me to belong to another, and probably later date than that of the stone antiquities next to be described.

These are twenty-one in number, and, with one exception, formed of flint; the exception being a hammer-stone, formed, apparently, of a heavy basalt. This instrument is of discoidal form, about two inches in diameter, and about five-eighths of an inch in thickness; the edges appear to have been considerably worn away by hammering, and at one place a splinter has been broken off. Of the two faces of the disc, one is rather flatter than the other; but on neither is there any shallow cup-shaped depression such as so commonly occurs on the "knapping-stones" of Scandinavia, and more rarely on those of British origin. Even on the hammer-stones of North America and Southern Africa, the same kind of hollows are often worked, and afford an instance of the way in which similar wants and similar experiences lead to similar results in countries remote from each other, and at very distant intervals of time. It was probably found that if the stone were held tightly, the hand was jarred by the blow, while, if held loosely so as to avoid the jar, it was liable to be driven away from between the finger and thumb, if there were no depressions in the faces of the stone in which to place them.

Many, however, of the hammer-stones of flint and quartzite, such as have been found in England and France, are, like this Syrian specimen, left without any depressions on their faces, and were probably held between the thumb and middle finger when in use, with the forefinger passing over a portion of the periphery.

Among the worked flints, that on the manufacture of which the greatest amount of labour has been bestowed, is a rather thick leaf-shaped blade, chipped all over both faces, about three inches and a quarter long, and one inch wide in its broadest part. The outline is not quite symmetrical, one edge being flatter than the other, and neither end is brought to a well-defined point. I am inclined, therefore, to regard it as a knife rather than a lance-head. I have some flint knives of much the same shape and size from the Yorkshire wolds. In a larger and thinner blade of the same character, found in Suffolk, and also in my own collection, the more curved edge has been made blunt by grinding, so as to convert it into the back of the knife.

The remaining objects are flakes and splinters of flint, some of them mere fragments, though of undoubtedly artificial origin. Some of the flakes, however, are very fine specimens of the kind, being skilfully and artistically made. One flat flake especially, two inches and seven-eighths in length and about five-eighths in

width, is perfectly symmetrical; and the core from which it was struck would seem to have been as regular in outline as those found in the Indus, which I have described in the "Geological Magazine" (vol. iii, 433). The material is also of much the same character and colour. One of its edges is somewhat notched, and the surface near it polished, as if it had been used as a saw. A short flake, one inch and three-eighths long, has one edge more carefully serrated and its surface more highly polished. One end of it and the other edge have been chipped square, possibly to make it a scraping tool as well as a saw. It appears adapted for working in bone. The edges of several other flakes show signs of having been used for sawing and scraping, and in one or two instances, have been worked to a right angle, either to produce a square scraping edge, or by wear in use.

The flint from which the instruments have been made varies in its character, and appears to have been derived from different sources. One broad flake is of black, nearly opaque flint, not unlike that from some oolitic beds; other flakes are of brown flint; but the bulk are of a buff colour, and in character much like the flakes found in the neighbourhood of the ancient copper workings of Wady Magharah, and brought to this country by Major Macdonald, Mr. Bauerman, and others. None of them, however, present the worn and blunted ends and sides so common on the Wady Magharah flakes. One fragment is whitened in consequence of having been burnt; but the others, with the exception of the knife, have been little altered in colour or in structure. The knife has become whitened over nearly the whole of its surface, but to a very slight depth. As to the period to which these relics are to be assigned, we seem to have little to guide us, most of the forms being such as may have remained in use after the introduction of metal for some cutting purposes. On the other hand, we find the same forms among the refuse-heaps of the Cave-dwellers of the South of France. Unless the associated fauna prove that such cannot be the case, they are doubtless of Neolithic age, and probably of much the same date as the instruments of similar character from Sinai.

Believe me, dear Captain Burton, yours very truly,

JOHN EVANS.

Nash Mills, Hemel Hempsted, November 1871.

DISCUSSION.

Mr. AVERY ventured to express a doubt whether some, at least, of the flints exhibited were the work of man, or were not, rather, natural and accidental. On the hill behind Ventnor, in the Isle of Wight, a visitor would easily find any number of flints of similar appearance, which were obviously of natural origin. The use of flint implements

was regarded as marking a certain stage of civilisation ; and it was a curious question what race of mankind now occupied that position. He had some doubts whether implements of so imperfect a nature had ever been very long or very extensively employed.

Mr. H. W. JACKSON : The last speaker has been more fortunate than I have been. I have resided for many years in a gravel district, and I must say that I have never yet found any stone whatever which it was possible to mistake for any of the many forms of implement manufactured by man. With regard to the quantity of animal matter in old bones, I should like to tell a short story. Many years ago, at one of the British Association dinners of the renowned "Red Lions", the late Dr. Buckland was appointed caterer for the occasion. So he decided to give his scientific brethren—a treat. He procured a large quantity of fossil bones—those of the Cave lion were, I think, among them—and he had some soup prepared from them. All the Red Lions partook of the soup, but all thought that the flavour was peculiar, and while some said that the soup was rather thin, others fancied that it was somewhat gritty. When the Doctor gave his explanation of the thinness and grittiness and peculiar flavour of the soup, I believe that some of the diners were not well pleased.

Mr. LEWIS, referring to Captain Burton's statement that his fellow traveller had been able to cut inscriptions upon some of the rocks on which ancient inscriptions were found, with flint implements found on the spot, showing thereby that the older inscriptions might have been cut with those implements, asked what kind of rocks they were, and what character the ancient inscriptions were cut in.

Sir D. GIBB inquired of Dr. Carter Blake his reasons for saying that some of the bones were not more than twenty years old.—Dr. CARTER BLAKE referred to the greater proportion of animal matter present in the jawbone and part of skull from Moslem cemetery, and probably Negro.

Captain BURTON replied. He declined to enter into elementary discussion about flint-implements. This was not the place for such trials of strength. The inscriptions alluded to by Mr. Lewis were the celebrated Sinaitic epigraphs.

The following paper was read :

On a COLLECTION of STONE IMPLEMENTS and POTTERY from the CAPE of GOOD HOPE. By the Rev. LANGHAM DALE. Communicated by G. BUSK, F.R.S., V.P.A.I.

ON the 9th February, 1869, Sir John Lubbock communicated to the Ethnological Society a brief notice of a collection of stone implements, made in the neighbourhood of Cape Town by my brother, Mr. C. J. Busk, and the Rev. Langham Dale. In this communication Sir John Lubbock gave an account of the general character of the South African specimens, which was illustrated by figures of the more striking objects. The collection exhibited on the present occasion, and forwarded a short time since by the

Rev. Mr. Dale, includes select specimens collected by himself on the "Cape Flats" and elsewhere; together with numerous others from parts near the coast of British Caffraria, collected by Mr. George M'Kay.

The majority of the specimens consist of pointed, spear-shaped flakes, resembling those described and figured by Sir John Lubbock; but amongst them is also a polished stone Celt, of an elongated wedge-shaped form, and constituted of a sort of greenstone. As the former collection did not include any specimen of polished or ground stone, the present instance may be regarded as of peculiar interest. The implement is about 5·8 inches in length, and 1·1 wide, and about an inch thick at one end, whence it tapers rapidly to the other. It will be observed that Mr. Dale, in his list of the specimens, includes some that he terms "scrapers," but with respect to these both Sir John Lubbock and Mr. Flower were of opinion that it was extremely doubtful whether the implements so termed were really "scrapers," the absence or paucity of which in South Africa has been before remarked.

The following are Mr. Dale's notes accompanying the collection, to which he has subjoined a list of the specimens,* with a statement of the various localities in which they were found:—

"It will be observed that all the implements are found on what may be called the normal surface soil; in some places nothing has occurred to disturb the soil, and the varieties of chips and unfinished tools lie in considerable quantities on the surface; the exposure to wind and water accounts for the peculiar appearance of many of them. On the Cape Flats there are vast tracts of sand, shifting season after season; this drift is being permanently but slowly arrested by the planting of the Hottentot fig (*Mesembryanthemum edule*), and various shrubs and coarse grasses, so that it will soon be a work of toil to search below the mountains of sand. Wherever the wind has swept off the sand from a valley, and piled it in heaps on either side, in the depression (often in shallow water) implements are found, partially embedded in the surface clay. Occasionally, a more finished specimen is picked up on the open flat, as if it had been used and dropped there.

"I would notice, too, that the finding of implements at East London was due to the alluvium being cut through by wagons, passing from the port to Fort Glamorgan. It is premature to hazard any theory as to the age of the South African stone implements; the subject is attracting attention, and from a letter which I have received from the Rev. Mr. Kronlein, of the Rhen-

* It is intended to lodge these in the Christy Museum.

ish Mission at Beersheba, north of the Orange River, I am inclined to hope for positive evidence of their use being known to some native races of the present day. The illustrations of various implements which I had sent him, when exhibited to the people, were recognised as of things known to them. The grain-crushers and the perforated stones are evidently the most modern. It seems to be acknowledged that a stick was forced into the perforated stone, and so used by the old Hottentot warriors as a weapon in time of war, and also as a tool to dig roots out in time of peace; for these uses I have the direct testimony of the missionary at Wapperthal, in the Clanwilliam division, and of others. I shall continue to collect evidence bearing on the problem of the age of these implements; at present the probability is, that they have been in use at no distant day among Bushmen and Hottentots."

Stone Implements, Cape Colony, 1870.—The localities where these implements, which I now send, were found, are in the Cape Colony, viz.—

LOCALITY.	SPECIMENS.	SOIL AND CONDITIONS.
1. Cape Flats, near Cape Town.	Various — spear-heads, arrow-heads, flakes, sling-stones, corn-crushers, scrapers, and pottery.	On the undisturbed soil, where left bare by the drifting away of surface sand.
2. East London, at the mouth of the Buffalo E., British Kaffraria.	Various—chisels, sharp-eners, rubbers, arrow-heads, flakes, perforated stones.	In gravel, under four feet of alluvial clay.
3. West bank of the Ka-hoon, British Kaffraria, 1½ miles from the sea.	Chisel and flakes.	On the red soil of the country.

Specimens have also been found at

LOCALITY.	SPECIMENS.	SOIL AND CONDITIONS.
4. Panmure, on the hill near Buffalo Mouth.	Arrow-heads.	In gravel, under two feet of alluvial clay.
5. Cape Henderson, near the Kei River.	Various.	Surface of red soil undisturbed.
6. Klip River Sprint, division of Albert.	Various.	Surface of red soil undisturbed.
7. Between Queen's Town and Dordrecht.	Various.	Surface of red soil undisturbed.
8. Lower Albany.	Arrow-heads.	.....
9. Mouth of Great Fish River.	Arrow-heads and flakes.	.....
10. A drift of the Orange River.	Arrow-heads and flakes.	.....

The specimens from the Cape Flats comprise: three spear-heads without shaft; one spear-head with shaft; one core; bits of pottery, and a handle of a pot; two rubbers; flakes, various; scrapers.

The specimens from British Kaffraria, for which I am indebted to Mr. George M'Kay, are: one peculiar rubber, No. 22, white; one chisel, No. 32, red; flakes Nos. 28, 29, 30, 36, red; two rubbers, Nos. 52, 53, green, from a shell-heap; one perforated stone; flakes Nos. 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 26, 27, white; flake (large) No. 1, white; flake (large) No. 0, 2; one nondescript large flake (unnumbered); one peculiar sharpener, No. 19, white.

DISCUSSION.

The Rev. J. G. Wood remarked that he could not believe the stone ring which was exhibited to be used indiscriminately as an aid to digging and as a weapon. He was aware that the Hottentot women use such rings in order to give weight to their digging sticks. But a woman's agricultural implement was a different thing from a warrior's weapon, and he was not aware that the same object was ever used for two purposes so essentially distinct. Moreover, as far as he knew, none of the Hottentot tribes used stone weapons, and he was exceedingly surprised to find that a resident missionary should make so startling a statement.

Mr. F. W. RUDLER, F.G.S., exhibited a stone hammer and an unique double-pointed cutting implement, also from the Cape of Good Hope; and the PRESIDENT exhibited some stone polished implements of rare beauty from Greece.

The meeting then separated.

DECEMBER 18TH, 1871.

DR. CHARNOCK, *Vice-President, in the Chair.*

THE minutes of the last meeting were read and confirmed.

The following new members were announced: The Right Hon. the Earl of DUNRAVEN, Dunraven Castle; JAMES BEST, Esq., M.D., 11, Johnson Place, Harrow Road, W.; J. KEMPE, Esq., M.A., 5, Barnard's Inn, Holborn, W.C.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the EDITOR.—The Food Journal, for December 1871.

From the REGISTRAR-GENERAL, Melbourne.—Patents and Patentees, vol. iv. Indices for 1869.

From the INSTITUTION.—Journal of the Royal United Service Institution, No. 65.

From JAMES BURNS, Esq.—*Human Nature* for December 1871.

From the EDITOR.—*The American Naturalist* for November 1871.

From the EDITOR.—*Nature*, to date.

From the EDITOR.—*La Revue Scientifique*, Nos. 24 and 25, Nov. 1871.

From the EDITORS.—*Matériaux pour l'Histoire primitive et naturelle de l'Homme*, No. 11, Nov. 1871.

From the AUTHOR.—*Quadri della Natura Umana Feste ed Ebbrezze.*
By Paolo Mantegazza. 2 vols.

The following paper was read :

*The ANTHROPOLOGY of AUGUSTE COMTE.** By JOSEPH
KAINES, Esq., M.A.I.

THE sources of this paper are to be found in chapters on "Biology" (vol. iii), and on "Fetichism" (vol. iv), of M. Comte's "*Philosophie Positive*", and in the third chapter of his "*Politique Positive*" (vol. i). The serious student will need no words of mine to induce him to read the full exposition therein contained. For the convenience of my hearers I will not quote, however, from the original French, but from Miss Martineau's admirable translation and abridgement, a book M. Comte himself approved.

The purpose of the following paper is to show that the differences between man and the rest of the animal kingdom are not so great as they are usually represented ; nor, in fact, are they so numerous as their resemblances. Treating man as the head of the zoological series, it attempts to show that his dominion over animals was from primitive times, (and is now) a moral dominion, rather than intellectual. And the paper concludes by arguing that only in so far as all external nature is used by man for moral ends, it is rightly used ; and that the intellect finds its true work in directing his affective nature to moral purposes and relationships.

Nature has been divided by all zoologists into three primary divisions, namely, the animal, vegetable, and mineral kingdoms—that is, into the organic and inorganic. Man has been placed at the head of the animal kingdom. He is the first of animals, not the last of angels ; zoology knows nothing of angels. Man's physical structure is analogous to that of all animals, and he has in common with them the same psychical characteristics. What few differences exist are of degree rather than of kind—quantitative rather than qualitative. Both know what want, suffering, and sorrow are ; both are elated by affection, hope, and joy ; both

* Read before the Anthropological Department of Section D (Biology) of the British Association for the Advancement of Science, at Edinburgh, August 8, 1871.

have intellect and moral sense, and both are educable by love; both have their likes and dislikes, and, apparently, unreasonable antipathies; both have to "struggle for existence," and know how hard it is; both are excited by the same sights and the same passions--what is new or wonderful strike both, and perplex both alike; both exhibit faithfulness, reverence, love, pity, and remorse; and there is not wanting evidence that both are passing through the same intellectual and moral development. There are animals that have their fetiches, as civilised man once had, and most savages now have. M. Comte finely says—"The study of animals has been vitiated by the old notions of the difference between instinct and intelligence. Humanity and animality ought reciprocally to cast light upon each other. If the whole set of faculties constitutes the complement of animal life, it must surely be that all that are fundamental must be common to all the superior animals, in some degree or other; and differences of intensity are enough to account for the existing diversities—the association of the faculties being taken into account on the one hand, and, on the other, the improvement of man in society being set aside. If there are any faculties which belong to man exclusively, it can only be such as correspond to the highest intellectual aptitudes; and this much may be doubtful if we compare, in an unprejudiced way, the actions of the highest mammals with those of the least developed savages. It seems to me more rational to suppose that power of observation, and even of combination, exists in animals, though in an immeasurably inferior degree; the want of exercise resulting chiefly from their state of isolation, tending to benumb and even starve the organs. Much might be learned from a study of domestic animals, though they are far from being the most intelligent. Much might be learned by comparing their moral nature now with what it was at periods nearer to their first domestication, for it would be strange if the changes they had undergone in so many physical respects had been unaccompanied by variations in the functions which, more easily than others, admit of modification. . . . Man, from the height of his supremacy, judges of animals as a despot judges of his subjects—that is, in the mass, without perceiving any inequality in them worth noticing. It is not the less certain that, surveying the whole animal hierarchy, the principal orders of this hierarchy sometimes differ more from each other, in intellectual and moral respects, than the highest of them vary from the human type. The rational study of the From and the ways of animals has still to be instituted, nothing vol. iv. † been done but in the way of preparation. It pro- From the Imple harvest of important discovery, directly appli- tution, advancement of the study of man, if only the natural-

ists will disregard the declamation of theologians and metaphysicians about their pretended degradation of human nature, while they are, on the contrary, rectifying the fundamental notion of it by establishing, rigorously and finally, the profound differences which positively separate us from the animals nearest to us in the scale."

Seeing, then, that all animals have so much in common with man, what is it that has led man to separate himself from other animals, and to exalt himself above them? The possession of reason, some one may say, while animals have instinct only. Well! but what is instinct? It is a word often used, seldom understood, still seldomer explained. M. Comte continues:—

"The only meaning that can be attributed to the word *instinct* is any spontaneous impulse in a determinate direction, independently of any foreign influence. In this primitive sense the term evidently applies to the proper and direct activity of any faculty whatever, intellectual as well as affective; and it therefore does not conflict with the term *intelligence* in any way, as we so often see when we speak of those who, without any education, manifest a marked talent for music, painting, mathematics, etc.

"In this way there is instinct, or rather there are instincts in man, as much or more than in brutes. If, on the other hand, we described *intelligence* as the aptitude to modify conduct in conformity to the circumstances of each case—which, in fact, is the main practical attribute of *reason* in its proper sense—it is more evident than before that there is no other essential difference between humanity and animality than that of the degree of development admitted by a faculty which is, by its nature, common to all animal life, and without which it could not even be conceived to exist. Thus the famous scholastic definition of man as a *reasonable animal* offers a real no-meaning, since no animal, especially in the higher parts of the zoological scale, could live without being to a certain extent reasonable, in proportion to the complexity of its organism. Though the moral nature of animals has been but little and but very imperfectly explored, we can yet perceive, without possibility of mistake, among those that live with us and that are familiar with us,—judging of them by the same means of observation that we should employ about men whose language and ways were previously unknown to us,—that they not only apply their intelligence to the satisfaction of their organic wants, much as men do, aiding themselves also with some sort of language; but that they are in like manner susceptible of a kind of wants more disinterested, inasmuch as they consist in a need to exercise their faculties for the mere pleasure of the exercise An attentive examination of the facts therefore discredits the perversion of the word *instinct* when

it is used to signify the fatality under which animals are impelled to the mechanical performance of *acts* uniformly determinate, without any possible modification from corresponding circumstances, and neither requiring nor allowing any education, properly so called. This gratuitous supposition is evidently a remnant of the automatic hypothesis of Descartes. Leroy has demonstrated that among mammals and birds this ideal fixity in the construction of habitations, in the seeking of food by hunting, in the mode of migration, etc., exists only in the eyes of closet naturalists or inattentive observers."

A very little reflection will show that man is almost as much a creature of instinct as other animals. Most of his actions are unconsciously automatic, and his least noble and mostly animal functions have frequently fullest play.

A sound biological philosophy makes little or no difference between man and other animals; on the contrary, it seeks to trace his genesis from inferior organisms. Mr. Darwin concludes his recent remarkable work with the words: "man still bears about him traces of his lowly origin." M. Comte adds: "Man must have begun like the lower animals. The fact is so, allowing for superiority of organization; but perhaps we may find in the defects of the inference a misapprehension of the mental state of the lower animals themselves. Several species of animals afford clear evidence of speculative activity; and those which are endowed with it certainly attain a kind of gross fetichism, as man does,—supposing external bodies, even the most inert, to be animated by passion and will, more or less analogous to the personal impressions of the spectator. The difference in the case is, that man has ability to raise himself out of this primitive darkness, and that the brutes have not, except some few select animals, in which a beginning to polytheism may be observed, obtained, no doubt, by association with man. If, for instance, we exhibit a watch to a child or a savage, on the one hand, and a dog or a monkey on the other, there will be no great difference in their way of regarding the new object, further than their form of expression;—each will suppose it a sort of animal, exercising its own tastes and inclinations; and in this they will hold a common fetichism, out of which the one may rise, while the other cannot. And thus the allegation about the starting-point of the human species turns out to be a confirmation of our proposition, instead of being in any way inconsistent with it The celebrated phrase of Bossuet, applied to the starting-point of the human mind, describes the element-Fetichism of polytheism—"Everything was God, except God ^{from the} ^{view of}," and, from that moment forward, the number of gods ^{is} ^{decreased}. We may recognise some features of that

state of our own condition of mind when we are betrayed into searching after the mode of production of phenomena, of whose natural laws we are ignorant. We then instinctively conceive of the production of unknown effects, according to the passions and affections of the corresponding being regarded as alive; and this is the philosophical principal of fetichism. A man who smiles at the folly of the savage in taking the watch for an animal may, if wholly ignorant of watchmaking, find himself surprised into a state not so far superior, if any unforeseen and inexplicable effects should arise from some unperceived derangement of the mechanism. But for a widely-analogous experience, preparing him for such accidents and their interpretation, he could hardly resist the impression that the changes were tokens of the affections or caprices of an imaginary being."

Hitherto psychology has limited itself to the study of man alone; and even his nature has been regarded only from its intellectual side. The psychology of animals has yet to be studied. Notwithstanding that a knowledge of it would be of immense service to us (especially for any science of comparative psychology), and that there are analogies indicating that the development of mental and moral ideas in both man and the animals is much alike, the study must remain until the incandescent vapours that enshroud the sun have been analysed into their chemical constituents, and spectrum analyses of the fixed stars have been made. The resolution of distant nebulae brings tangible renown to the discoverer; stars are named after him, and he obtains the reward of immediate notoriety. The study of the psychical nature of animals involves much careful observation, much laborious and painstaking comparison; while the results do not invite the world's ignorant wonder and applause. The few modern *savans* who have devoted themselves to such a study—men such as Huber, Steenstrup, Kirby, Spence, and others—have left books the worth of which it is almost impossible to exaggerate; although the study has been pursued, like the studies of so many scientific specialists, in too absolute a spirit.

A great (perhaps the greatest) living naturalist, has exemplified the spirit with which such an inquiry should be conducted. Mr. Darwin discusses with philosophic quietness and evenness of temper the nice question of man's descent from the ape. That hypothesis may or may not be true (while the facts, analogies, and inferences given by Mr. Darwin in support of it are very considerable), but the student of Mr. Darwin's book cannot help feeling that the calmness and perfect candour with which it is written is worthy of the earnest votary of science, and that he exhibits a spirit which will be common only in better ages than ours.

It seems hardly necessary to repeat that naturalists must put out of sight altogether any supposed consequences their recorded facts, or inferences from the facts, may involve ; and yet this is too frequently forgotten. They must reason only from the facts before them, and be anxious only to get at the truth as it is in science. They cannot arrive at this truth unless their minds be emptied of unscientific jargon and irrational hypotheses. They must rigorously discard all theological and metaphysical theories, and aught else that has no objective reality. When this has been done they are fit for investigations that demand the receptive and reflective mind, the seeing eye, and the delicate manipulating hand. There is an infirmity besetting philosophic observers—than which none is more hurtful—namely, that which prompts them to explain the psychical manifestations of the first of animals, by imagining to exist an entity (of whose essence or qualities they know nothing), over and above the organism before them. They must cure themselves of this, or relinquish the study, from sheer mental incapacity. Physical objects or relations must be explained in a physical way, or not at all. Psychical effects have physical causes. The observer who studies them in connexion with their environment will disregard other-worldism in explaining them. Recognising to the full the relativity of all human knowledge, he will scorn chimerical interpretations of natural phenomena.

There was little to distinguish the primitive savage from the animals he found here. He was every whit as wild, as restless, and as gregarious as they. The same passions agitated him, the same hunger drove him forth in search of food, and the same fear of a common danger made him often change his place of rest. His brain (as we have good reason for knowing from the skulls which have been found in caverns in many parts of Europe and elsewhere) was of a low, animal type, exhibiting an almost entire absence of those faculties which mark the brain of a normal civilised man. His perceptive (or intellectual) faculty must have been almost rudimentary ; while the affective and nutritive faculties were in a more or less developed state—the latter perhaps most so. The first aspects of Nature to such a being were stern, rude, and harsh,—such, in fact, as made him painfully sensible of his feebleness and inaptness. He found himself constantly in the presence of forces and powers that threatened him with destruction—things that were all the more awful in that their causes were as unseen as they are unknown. Neither lightning, nor thunder, nor earthquake, nor cold, nor heat, nor wild animals, would spare him. He must be his own defender—his own providence. Hunger made him hunt. His numerous migrations brought him into contact with wild carnivorous

animals. These he must destroy. In efforts thus put forth, he continually found his need of weapons to supply his own deficiencies, muscular and other. Or: animals fleetier than he evaded his pursuit, and he must therefore train other animals equally swift to catch them. These last became his constant companions. Of course there remained unconquered animals, whose wiliness tasked his cunning, or whose strength was greater than his. Many of these he treated as superior beings, deserving fearful reverence. Selecting one of them, he named his family after it; hence sprung up "totem" worship. This worship, which perhaps is as ancient as any other, was kept alive by his descendants. It prevails amongst many savage communities to this day, as travellers testify. Of course the totem, or the animal after which the family or tribe was named, was rarely, if ever, killed. Did, however, such a fate happen to it in hunting, a thousand apologies were offered to its body, and it was gravely informed that it was the weapon that committed the deed, and not the person who carried it. Totemism, like most other religions, was prolonged long after all life had gone out of it; and its worship has well nigh lost all meaning to those savages who still practise it. Totemism is only a phase of fetichism, and that not the oldest. It is perhaps very difficult for us, at this distance of time, to do full justice to fetichism. From the standpoint of our so-called modern civilisation, it seems hardly possible to regard that stage of human progress with due respect. Not that fetichism is extinct even among us,—as the dislike of many millions of foolish persons to toads, snakes, frogs, serpents, lizards, newts, beetles, etc., too plainly testifies. To most of these harmless creatures feelings of malevolence are attributed,—as if their existence here was to work man ill.

It was in fetichistic times that separate families of mankind were brought into association, whereby man's social instincts were maintained in full vigour. To fetichism we owe agriculture, currency, the discovery of fire, the uses of clothing, and most of the arts that benefit man. To fetichism we owe language, as the root-words, and the words expressive of sounds and signs,—which are so largely to be found in ancient and modern languages,—bear witness.

The development of man's relations with the external world that fetichism produced was a moral one, inasmuch as it cultured the better part of his nature—his affections. Animals, trees, rivers, winds, clouds, moon, stars, and sun,—these, with a thousand other objects, he regarded with profound awe and love; and he made material images of many of them, to keep him in mind of them.

What little speculative faculty primitive man had was in full

activity, but his affective nature revealed to him many things indirectly, that his intellect would scarcely have perceived directly. His concepts were few and unrelated. They increased with, and were modified by, his ever-varying experiences. But despite its irrationality, as we view it (and all irrationality is relative), fetichism was immensely helpful in humanising man. Feeling profoundly that all modes of activity were due to a life such as that he himself possessed, he revered all alike. Did not he and the animals have everything in common? What had he that they had not? Indeed, were not many of them his superiors?—in that they were able to hurt him—and was he not habitually regarding them as such? It was left to later ages of intellectual pride and moral feebleness, to constitute man a patron of that animal kingdom of which he is but the chief animal.

The manly, kindly Arnold once wrote, "The mystery of the animal kingdom is painful to me." He could not conceive, I suppose, that all the moral goodness and intellectual power exhibited by the brutes were to be buried in their graves. Believing man to be reserved for a higher life, I imagine that it perplexed his noble spirit, whether they might not share it with him; especially as animals here, like man, did not meet with the reward befitting their qualities and endowments. On a subject of this nature the philosopher should say nothing. Man and the animals are physical and psychical products. More he knows not, and a modest silence therefore becomes him. If he permit himself to think or speak on the subject, he might express his surprise at the huge vanity of mankind in conceiving that *it* was worthy of a destiny or life from which the rest of the animal world were to be precluded.

It was said of Spinoza that he was a "God-intoxicated man"; and Mr. Mill has said of M. Comte that he is a "morality-intoxicated man". It is a noble reproach, and better deserved than most reproaches. The purpose of M. Comte's doctrines was to moralise all studies and action by giving them a social direction. Inheriting everything from the race, he reasoned, that we owed everything to it; and that our best services and finest thoughts should be rendered to humanity. Ever were men to keep before them "whose they are, and whom they serve." This teaching does not meet with much approval in these days, because it does not minister to the complacent pride of man. It does not exalt the intellect sufficiently, so intellectual men think: it sets an undue value on the affective nature—that which they possess with the common folk, and they do not like it. As in old times so now; they would be as gods KNOWING good and evil.

Man's whole nature surely needs moral discipline. In how many ways his intellect protests against all wise restraint! He *will* seek things absolutely, as if absolute knowledge were possible. He *will* devote himself to the study of *specialities*, albeit art is long and life fleeting. He dislikes large and general views, and spends a lifetime over the infinitely little. He will not give his studies a social direction. Man is not now the minister and interpreter of Nature for the benefit of his brother man so much as for his own. Great aims are subordinated to low ambition, and noble doing is postponed to vulgar fame. Hence the intellectual and (what is worse) moral anarchy of our time. It too often happens that, when you tell men of science to generalise from facts already stored, they reply that more facts are wanted, as if the heaping up of thousands of barren facts were knowledge, and not rather their organisation. Further, it is implied, if not directly stated, that all facts are equally important: which means, if it mean anything, that facts about the life and *habitat* of an actinia are as important as facts about man and his *environment*. Grave questions affecting the continuance of modern social life press upon us—such as crime, pauperism, education, capital and labour, and property—questions needing for their consideration and solution the best scientifically trained intellects. And by whom are these subjects being treated? By wealthy manufacturers; lawyers aspiring to office; retired tradesmen; scions of a worn-out nobility; colonels with the knowledge and training acquired on parade and at drill; and a crowd of the most ordinary and conventional persons that could possibly be got together in a given space. While the scientifically trained intellects already referred to are engaged in settling the atmosphere of the sun, and topics of kindred nature and value. I am far from saying that these topics are unworthy of their attention (although it may turn out so); but surely they should wait awhile till things of vaster import, *which affect the body politic and sociologic*, have been settled, or are in process of settlement. Of course there are exceptions. There are those who have not yet “bowed the knee to Baal”; whose highest and constant endeavour it is to serve their fellows in their day and generation.

The organic world depends on the inorganic, and to man alone it is given to use both worlds for moral ends. Not for *his* special behoof were either made; not as ministers to *his* pride and selfishness should either exist. Nor does Nature continue chiefly that man may exhibit feats of intellectual legerdemain. The minerals with which he makes his machinery—the water he converts into steam—the land that yields him crops—in fine, all the powers and forces that exist—belong to humanity as

a whole, and not to any single individual or number of individuals; and when these are subordinated to such low ends as the social advancement or degrading luxury of the few, they have lost all moral uses whatsoever. At all times and in all places this great truth must be remembered, or man may yet recur to a condition worse than that of Feticism. He will lack the humanity that characterised that primitive condition, and no intellectual acquisitions, however great, will compensate for such a loss. Only so long as we use Nature for moral ends are we worthy of continuance here. The synergy of man's psychical functions produces glorious results, not their dispersion. He who would serve his kind must do it, as inculcated by the old religious precept, "with all his heart, mind, body, soul, and strength"—his whole being in fact.

So M. Comte thought, taught, lived, and died—loving and revering Humanity.

I hope, at some future time, to be permitted to show further what were M. Comte's contributions to the science of anthropology, especially sociology. I have been compelled, for the sake of clearness and precision, to limit myself to one aspect of his numerous teachings. How insufficiently I have presented that aspect, few here, perhaps, know as well as myself. One thing comforts and emboldens me: it is that great truths never suffer permanent injury, be they expounded by never so feeble an advocate.

DISCUSSION.

Mr. LEWIS said Mr. Kaines had come before the Institute with a paper on a subject, and from a point of view, to which he had given much more attention than most of his hearers. He had, however, made some statements in support of which he (Mr. Lewis) would like to hear a little evidence. One of these was to the effect that men and animals were passing through the same intellectual and moral development. Another was that some animals were feticists, by which he understood the author to mean that they attributed to inanimate objects the passions and feelings of animate beings, and in support of which the author had said, that if a watch in motion were shown for the first time to a savage and an animal, both would regard it as a living creature, which was undoubtedly true, but did not, so far as he could see, bear upon the fetic question; and neither could he admit that a watch in motion was, for the purpose of that argument, to be regarded as a merely inanimate object. The last statement to which he would allude was to the effect that the brain of the early races of man was of a low animal type, and that this was proved by the remains found in European caverns, etc.; whereas his studies had led him to believe that the earliest skulls found in European caverns and elsewhere were not, on the whole, materially lower than those of the

racés now inhabiting the same countries, excepting, of course, the Neanderthal and other skulls, which were believed to be simply idiotic or abnormal. Mr. Lewis had no doubt that Mr. Kaines had accumulated a mass of evidence in support of his statements before making them, and he should be glad, therefore, as a student of anthropology, to hear what he had to say upon the points he had mentioned.

Mr. G. HARRIS said that the Anthropological Institute was much indebted to Mr. Kaines for the lucid and comprehensive exposition which he had afforded of the views of M. Comte. The consideration of animal nature had an important bearing upon that of man. Much as we differed from animals we had a great deal in common with them. Our feelings, our appetites and our passions, were the same as theirs; and they exhibited to a certain extent a moral sense as regarded the feeling of shame for the transgression of laws prescribed for their obedience. Professor De Quatrefages, in his valuable work on anthropology, had even gone so far as to point out that in animals there was a sentiment at any rate resembling, and analogous to, the religious feeling existent in man; inasmuch as they exhibited a reverence for man as a being superior to them, and obeyed him either through love or through fear, as man obeys the Supreme Being. In regard to what Mr. Kaines had said respecting Dr. Arnold's opinion upon animal nature, he (Mr. Harris) believed that it amounted to this. That animals appeared to be sent into the world to answer some great moral purposes with respect to man; and that it was not impossible that, even in a future state, their presence might be required to carry on and complete these same great moral ends. The study of natural history was calculated essentially to assist that of anthropology, and to aid the pursuit of the science in several important respects. Professor De Quatrefages said we ought not only to study animal, but vegetable nature, and the constitution, and even the instincts of beings of both classes might be serviceable in the study of the nature of man. He (Mr. Harris) hoped to hear some papers on the subject of natural history, more especially bearing on animal instinct and its relation to reason, read before the Institute, which might throw much light upon human nature, and open new tracks capable of being followed up with advantage.

Dr. COLLYER was not prepared for so intellectual a treat; the views advanced by Mr. Kaines were perfectly consonant with the great truths of nature, though they might jar with educational or conventional prejudices. The laws which govern animal existence were as certain and as unalterable as those which governed the more physical portions of the universe. It was true that by amalgamation of the original races, change of climetric influences, there might sometimes appear under these modified circumstances to be a change in the original race. It was evident that, in the progressive development, man could not have existed on the earth had not the condition been rendered suitable for his habitation by the prior existence of lower forms of organisation. There was always a strict relationship between the mental functions and nervous development; from the merest globular existence to the highest cerebral organisation. He felt con-

vinced that was an attribute equally possessed of the lower forms of life as in man, the limitation being, in each case, merely the result of organic conditions. The lower animals possess all the propensities, nearly all the sentiments, and most certainly some of the perceptive, and, in a degree, the reasoning faculties. Not to shut our eyes to the experience of every-day life, we are forced to the conclusion that dogs, elephants, horses, etc., possessed approbateness, pride, veneration, fear, hope, wonder, constructiveness, imitation, and a sense of right and wrong. The earth itself, at the various zones, had particular and special developments; any sudden transition from the original or native locality would be attended with the most baneful results, by the higher classes removing to inferior zones. The improvement of the inferior or lower was always confined to the cerebral development. The same law which prevented the advance of the lower races beyond the limit of their organisation also applied to the inferior animals. Education had the same relative effect on animals; and that their young were easily trained was shown in the case of the pointer, the spaniel, and setter; they came into existence with a nervous system predisposed to receive impressions resulting from the education of their parents, the limit being only the result of their special nervous system.

Mr. HYDE CLARKE expressed his hope that the proposition he had made to the Ethnological Society, and which was incorporated in their programme, of a Section for Comparative Psychology, would be carried out by the Institute. It would be of great utility, and had the promise of considerable support. The study of the minds of animals would throw great light on the operations of the human mind, and particularly in the consideration of its development in early ages. The superstitions of dogs, horses, etc., were particularly deserving of attention in this respect, as they represented phenomena of animism.

Mr. QUARITCH regretted to differ in opinion from Mr. Kaines and the gentlemen who preceded him. But, before he expressed any idea upon that head, he would call attention to the real functions and objects of the Institute. The proper study of anthropologists was Man; and he did not think that this study was at all furthered by a discussion upon the nature, instinct, and habits of the lower animals, whether we regarded them in their modern and familiar species, or endeavoured to construct ideas of their remote and prehistoric existences. There was a prosperous and industrious society of naturalists in London, who had made and were still making successful researches into the history of animal life; and anthropologists should not try to usurp any of the functions of the Zoological Society. The natural history of man, as man, was the science upon which our attention ought to be concentrated. It might, however, be proper to express his individual opinion upon the matter mentioned by Mr. Kaines; with regard to the Darwinian theory, apparently adopted by that gentleman, that man has been developed by graduation from lower organisms. He ought not, perhaps, to express before men tutored in the impassiveness of science his own inner sense of the

dignity of manhood, the feeling which made him revolt from such a theory. But he could conscientiously state that he found a less difference physically and intellectually between man in his highest and man in his most barbarous state, than he did between the utmost effort of sagacity in the best developed of the lower animals, and the ordinary exercise of mental gifts in even the most ignorant specimens of humanity. Man needed only association with his fellows in an organised commonwealth, to attain the highest development of his faculties, mental and physical, and to be such as he seemed in ancient Greece in the days of Socrates, Plato, and Aristotle, when art, philosophy, poetry, and literary culture reached a height which even now we look upon with envy and wonder. Our knowledge of facts had increased since then, our discoveries in science had been multiplied, but there had certainly been no advance in mental power and in physical conformation. The gradual-development theory would find that fact a stubborn one, and very difficult to answer. Some men were "for the angels," and some "for the monkeys"—to use a phrase that had excited amusement; but he thought it as unjustifiable to identify our nature with the angelic beings whom science properly ignores, as to base a determined partisanship the other way upon structural resemblances between man and the lower orders of animals. That was the tendency of the present day, and one that ought to be strongly deprecated, until at least the inexplicable problem of man's intellectual activity and *constructiveness* had been first assailed. For himself, he was content to remain in the belief that his ancestors had always been of his own kind; whether as hunters, labourers, or highwaymen, or whatever else they might have been in remote antiquity, he felt convinced that they were never otherwise than human, with the form, features, blood, strength, and weaknesses of man.

Mr. J. R. LEITCH, while complimenting the writer of the paper, differed from him *in toto* on the merits of Comte's philosophy as a system of exposition of nature. Avoiding minute details, he maintained that, with reference to the alleged similarity in *kind* between the instinct or reasoning powers of animals and men, the whole Comtean and Darwinian argument is founded upon metaphysical confusions and evasions. The human mind possesses powers and faculties entirely distinct from and superior to those of lower animals; and the resemblances between them are simply and only resemblances. In the case of some of the more important human faculties, nothing more than the most shadowy resemblance existed, as, for instance, in the case of the moral sense. Passing from moral to intellectual endowments, the human faculty of abstract conception was adduced as not having even a shadowy resemblance in brutes. No instances could be given of one abstractive faculty in even the most sagacious brutes. Examples of this mode of reasoning in man were mentioned to show how they differed from all mere instincts in animals. The speaker enumerated one or two other distinctive human faculties, and concluded by saying that a careful study of comparative psychology would show that any theory of continuous mental development upward from lower

animals to man by natural evolution must inevitably give way under a rigorous philosophical analysis of psychical qualities.

The CHAIRMAN thought the Society was indebted to Mr. Kaines for a really anthropological paper; a paper with which he (the Chairman) for the most part agreed. Of course the author did not profess to do more than give an introduction to the philosophy of Comte, but on a future occasion he would no doubt enter more fully into the subject. He (the Chairman) objected to Comte's use of the word *sociology*, which was a Latino-Greek compound. A more appropriate term would have been *etærology*; and, perhaps, a still better one, that of *anthropology* itself.

The meeting then separated.

JAN. 1ST, 1872.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE Minutes of the last Meeting were read and confirmed.

The following new members were announced: ROBERT THAL-
LON, Esq., 11, Chester Terrace, Regent's Park; and J. JEREMIAH,
jun., Esq., 43, Red Lion Street, Clerkenwell.

The following presents were announced, and the thanks of the meeting voted to the respective donors:—

FOR THE LIBRARY.

From the SOCIETY.—Proceedings of the Royal Society, No. 130.

From the SOCIETY.—Proceedings of the Society of Antiquaries of London, vol. v, No. 2.

From the EDITOR.—American Eclectic Medical Review, Nov. 1871.

From the AUTHOR.—The Literature of Kent's Cavern. By W. Pen-
gelly, Esq., F.R.S. Part 3.

From the EDITOR.—La Revue Scientifique, Dec. 23, 1871.

From the AUTHOR.—Proverbia Communia Syriaca. By Captain R.
F. Burton.

From the AUTHOR.—L'Ancienneté de l'Homme. By M. E. T. Hamy.

From the EDITOR.—Correspondenz-Blatt der Deutschen Gesellschaft
für Anthrop., Ethn., und Urgeschichte, Nos. 11 and 12.

Dr. GOYARD (member of the Anthropological Society of Paris) presented, in the name and on behalf of Dr. Hamy, a copy of his recent work, "Précis de Paléontologie Humaine". After a short sketch of the nature of the work, and a biography of M.

Hamy, one of the most eminent pupils of Dr. Broca, whose opinions he shared, Dr. Goyard described the history of the formation of the Anthropological Society of Paris, and the friendly ties which united it with the sister Institute of London.

The following paper was read :

The ADAMITES. By C. STANILAND WAKE, Esq., Dir. A. I.

MUCH has from time to time been written as to the distinction between the Adamites and the pre-Adamites, although little has been done to identify the members of the two great divisions into which the human race has been thus divided. Those who accept the deluge of Noah as a historical fact, stated however in terms too wide, may say generally that all the descendants of this patriarch are, as such, Adamites, while the pre-Adamites comprise the peoples of the primitive area inhabited by the dark races, supposed by some writers to be referred to in the Hebrew Scriptures under the term *ish*, "the sons of man," as distinguished from the sons of Adam. Little value, however, can be attached to such a general statement as this. Supposing Noah to have been a second common father of the race, we are still ignorant as to what peoples are to be classed among his descendants. No doubt the *Toldoth Beni Noah* of Genesis throws considerable light on this question. According to that genealogical table the whole earth was divided after the flood among the families of the three sons of Noah—Shem, Ham, and Japheth. It is not necessary here to identify the peoples described as the descendants of these patriarchs. It will suffice to say that Professor Rawlinson, who differs only in one or two particulars from other recent authorities, writes as to the distribution of those peoples:—"Whereas the Japhetic and Hamitic races are geographically contiguous, the former spread over all the northern regions known to the genealogist—Greece, Thrace, Scythia, most of Asia Minor, Armenia, and Media; the latter over all the south and the south-west, North Africa, Egypt, Nubia, Ethiopia, Southern and South-eastern Arabia, and Babylonia—so the Semitic races are located in what may be called one region, that region being the central one, lying intermediate between the Japhetic region upon the north and the Hamitic one upon the south."

Supposing the *Toldoth* to give an exact statement of the descendants of the three sons of Noah, it by no means follows that the peoples there referred to are alone entitled to be classed as Adamites, and I propose therefore, to see whether the latter can be identified by other evidence. Almost intuitively we turn, in the first place, to that region known as Chaldæa, which has furnished in our own days material so important for the recon-

struction of the annals of civilised man in the earliest historical period. Professor Rawlinson, indeed, at the Liverpool meeting of the British Association, held in 1870, sought to establish that the Garden of Eden of the Hebrew writers was none other than Babylonia; a hypothesis which certainly agrees with Sir Henry Rawlinson's statement that *Héa*, the third member of the primitive Chaldæan triad, may be connected with the Paradisaical traditions of the tree of knowledge and the tree of life. This would point to Chaldæa as the original home of the Adamites, unless, indeed, the traditions were derived from a still earlier centre, and it will be well to ascertain whether there is anything in the history of Babylon which directly connects them with the Adamic stock.

If we were to accept with Chwolson the great antiquity of "The Book of Nabathæan Agriculture," there would be no difficulty in assigning such a position to the Chaldæans. For this book not only expressly declares that they were the descendants of Adam, but in it Adam appears as the founder of agriculture in Babylon, acting the part of a civiliser, and hence named "The Father of Mankind". This agrees well with the Old Testament account of Adam as the first cultivator of the ground. M. Renan, however, would seem to have conclusively established the late date of the so-called Nabathæan work, showing that it contains legends as to Adam, Seth, Enoch, Noah, and Abraham, "analogous to those which they have in the apocryphal writings of the Jews and Christians, and subsequently in those of the Musulmans,"—Adam being known to all the Moslem East as the "Father of Mankind".

We must seek, therefore, for some more reliable record of early Chaldæan history; and this we have in the stone monuments on which its annals were engraved. Sir Henry Rawlinson, on their authority, says of the Chaldæans of Babylonia that they were "a branch of the great Hamitic race of *Akkad*, which inhabited Babylonia from the earliest times. With this race originated the art of writing, the building of cities, the institution of a religious system, the cultivation of all science, and of astronomy in particular." The race affinity of the *Akkad* is not as yet settled, but some information as to this point may be gained from the name by which they were designated. This appears to be composed of two words *Ak(k)-ad*, the latter of which may be identified with the first syllable of the name Adam. As to the word *Ak*, some light may probably be thrown on its meaning by reference to the Celtic languages. Baldwin, without seeing its full bearing, makes the remark that the Dravidians of Southern India use *Mag*, as the Berbers and Gaels use *Mac* (*Mach*), the word denoting "kindred" in all the Teutonic languages.

Now, it could be proved by many examples that the letter *M*, which is found at the beginning of certain words in various eastern languages, is often simply a prefix. This is especially the case in Hebrew and Arabic, and, therefore, probably in the more ancient languages with which they are allied. Such, at least, must be the case with the initial letter of the word *mach*, "son," as in Erse the *m* is wanting, and in Welsh the related word, having the sense of "a root or stem, lineage," is also simply *ach*. Thus *Ak(k)-Ad* may well be "the sons or lineage of Ad"; as Mac-Adam in Gaelic is "son of Adam." That the first syllable of this word had the signification here assigned to it is rendered extremely probable by another circumstance. It is well-known that the Welsh equivalent for *Mach*, in the sense of "son," is *Ap*; and so also we find that in Hebrew "son" is rendered by *ben* (the Assyrian *ban*), while in Arabic it is *ibn*. In these words the *b* is the root sound, and if son was expressed by *ak* in the old Akkad tongue, this would bear the same relation to the Semitic languages as the Welsh does to the Gaelic and Erse—*ak* and *ben* in the one class answering to *ach* and *ap* in the other. Nor is this view without positive support. The Hebrew has a word *ach* which expresses, not only the sense of "a brother," but also "one of the same kindred." In Assyrian *uk* means a "people," while *ak* signifies a "Creator;" these words being connected with the old Egyptian *uk*, and also *ahi*, "to live."

Nor is the idea that the Chaldæan *Akkad* were literally "the sons of *Ad*" without historical basis. According to Berosus, the first Babylonian dynasty was Median. What people were referred to by this name is still undecided. Professor Rawlinson supposes that they were really the same as the so-called Aryan Medes of later history, while Sir Henry Rawlinson, although treating the later Medes as Aryan, yet considers those of Berosus to have belonged to a Turanian, or at least a mixed Scytho-Aryan, stock. Elsewhere Professor Rawlinson seems inclined to identify the Chaldæan *Akkad* with these Medes, as a Turanian people who at a very early date conquered the Babylonian Cushites and mixed with them. This is, in fact, the conclusion which appears to be required by other considerations. The name by which the Medes are first noticed on the Assyrian monuments is *Mad*. But if the initial labial is removed, this name is reduced to the more simple form *Ad*; and, supposing the explanation given of the primitive name of the Chaldæan race to be correct, the (*M*)*ad* who preceded them would really be the parent stock from which the *Akkad*, or Chaldæans, were derived. Confirmation of this notion may be supplied from another source. Among their Aryan neighbours the later Medes had the distinctive title of

Már. This, Sir Henry Rawlinson supposes to have given rise, "not only to the Persian traditions of Zohák and his snakes, but to the Armenian traditions also of the dragon dynasty of Media, the word *Már* having in Persian the signification of a snake." But this must have been through ignorance of the real origin of the title, which had reference rather to the lion than to the snake. The Arab historian, Massoudi, in accounting for the application to the city of Babylon of the name of *Iran-Sheher*, observes that, "according to some, the true orthography should be *Arian-Sheher*, which signifies in Nabathean, "the city of Lions," and that "this name of Lion designated the kings of Assyria, who bore the general title of Nimrud." Sir Henry Rawlinson thinks that the title *Már* is Scythic, and, if so, there can be little doubt of its signification. The primitive meaning of *Ar* was "fire," from which the lion, as the symbol of the Sun-god was called *ari*, the Sun-god himself having a name *Ra*. Strictly, therefore, *Már* would denote "fire-worshippers," a title which, as is well-known, was especially applicable to the ancient Medes. The *Aryans* generally appear to have been Sun- or Fire-worshippers, and probably they received their name from this fact. This would seem to be much more probable than the ordinary derivation of the name Aryan from the root *ar*, "to plough"; and it would include the sense of "noble" preferred by Mr. Peile, "children of the Sun" being usually a special title of the priestly or royal caste.

Connected with this question is that of the origin of the name of the Greek god *Ares* (the Latin *Mars*). Among other grounds for inferring the Asiatic origin of this deity is his connection with Herakles. The Latin myth of Hercules and Cacus would seem, moreover, to require the identification of the former with Mars. Such would appear to be the case also in Chaldean mythology. The Babylonian Mars was called *Nergal*, which is probably the same name as "Hercules," and Sir Henry Rawlinson suggests that the only distinction to be made between that deity and *Nin*, or Hercules, as gods of war and hunting, is that the former is more addicted to the chase of animals and the latter to that of mankind. That Hercules, or Herakles, was of Phœnician or Assyrian origin has been fully established by the learned researches of M. Raoul-Rochette, who has shown, moreover, that the proper name of that deity was *Sandan* or *Adanos* (*Adan*), a name which not only reminds us of Aduni, supposed by Professor Rawlinson to be a primeval Chaldean deity, but also recalls that of the Median *Ad*, and even of the Hebrew *Adam*.

A remark made by Lajard strongly confirms the idea that the Latin war-god was derived from a similar source. This learned French writer accounts for the rapidity with which *Mazdëism*,

better known as the worship of Mithra, spread among the Romans, by supposing that it was in some way connected with their national worship. Probably a key to this connection may be found in the curious figures of Mithra which appear to have been peculiar to the Roman phase of Mazdëism. These figures, which are encircled by a serpent, unite to the human body and limbs, the head of the lion, and they might well be taken to represent Mars himself, since the title *Már*, which was distinctive of the Medes, not only conveyed the idea of a serpent, but was also, and more intimately, associated with the lion symbol of the Sun-god.

If the alliance thus sought to be established, through the title *Már*, between the Medes or *Mad*, and the other peoples of the so-called Aryan stock be correct, we may expect to find traces among some, at least, of these peoples of the primeval *Ad*. Nor will such expectation be disappointed. The Parsis of Bombay have a book called the "Desatir," the first part of which is entitled "the Book of the Great *Abad*," who is declared to have been the first ancestor of mankind. The authenticity of this book has been denied, as Mr. Baldwin thinks, however, on insufficient grounds. It is certainly strange, on the assumption of its being apocryphal, that such a name as *Abad* should have been given to the mythical head of the race. The meaning of the name is evidently "Father *Ad*," and there is nothing improbable in the Persians preserving a tradition of the mythical ancestor, whose memory was retained in the national name of the Medes, a people with whom they were so closely connected. It simply confirms the conclusion before arrived at, that they also must be classed among the Adamites.

The Hindus themselves would seem not to be without a remembrance of the mythical ancestor of the Adamic stock. The Puránas, which, notwithstanding their modern form, doubtless retain many old legends, refers to the reign of King *It* or *Ait*, as an avatar of Mahadeva (*Siva*), who is a form of Saturn. Assuming that the information given to Wilford as to the reign of this king in Egypt ought to be rejected; yet, as *Aetus* is mentioned by Greek writers as a Hindu, we must suppose such information to have been founded on actual statements contained in the Puránas. These certainly refer to the *Yáduvas*, descendants of Yadu, supposed emigrants to Abyssinia, whose character, as described in the Puránas, agrees well, says Wilford, with that ascribed "by the ancients to the genuine Ethiopians, who are said by Stephanus of Byzantium, by Eusebius, by Philostratus, by Eustathius, and others, to have come originally from India under the guidance of Aetus or Yátu," whom they believed to be the same as King Ait.

Nor do the Celtic peoples appear to be without a traditional remembrance of the mythical ancestor. Mr. Maclean says that the fair race who first settled in Western Europe were called *Gaidal*, a name which he derives from two words meaning "a bright or clear man." A much more probable derivation, however, may be given. *Al* signifies "progeny," and hence *Gaid-al* is the progeny of *Gaid*. But the initial letter is only a prefix, and hence the name means simply "the progeny or descendants of *Aid*, i.e., *Ad*." The Welsh have preserved the same name as *Gwyddil*, "the descendants of *Gwydd*, or *Wydd*." Moreover, the leading Celtic people of Gaul, in the time of Cæsar, were the *Ædin*, and Davies thought that their name was derived from *Aedd* the Great, whom he finds referred to in the Welsh triads, and whom he identifies with *Aides* or *Dis*. Cæsar, indeed, says that the god *Dis* was the mythical ancestor of the Gauls. The position occupied by this deity in the traditions of the Celtic race is very remarkable, when we consider that a divine personage bearing the same name was known, not only to the Greeks, but apparently also to the Babylonians. Sir Henry Rawlinson points out that *Dis* should be one of the names of *Anu*, the first member of the leading Chaldæan triad, and the deity who answered to *Hades* or *Pluto*. *Warka* or *Urka*, the great necropolis of Babylon, was especially dedicated to *Anu*, and Sir Henry Rawlinson remarks on this:—"Can the coincidence then be merely accidental between *Dis*, the Lord of *Urka*, the City of the Dead, and *Dis*, the King of Orcus or Hades?" Most certainly not, as it is only one of many circumstances which prove the close connection of the Greeks and other Aryan peoples with the ancient Babylonians. The original character of *Dis*, "Lord of the Dead," was probably the same as that of the Gallic *Dis*, i.e., the mythical ancestor of the race. A similar change of character has been undergone by the Hindu *Yama*.

It is very probable that in the divine ancestor *Dis*, as in the mythical King *It* of the Hindus, we have a reference to the primeval *Ad* [*Adonai*, "Our Lord," was converted by the Greeks into *Adoneus*, as a synonym of *Pluto*, i.e. *Dis* (King's "Gnostics," p. 101). Through his name, *Sandan* or *Adanos*, these deities are connected with *Hercules*, and hence with *Ares* (Mars)], whose name has been traced in that of the Gauls—*G-aid-al*. This identification, however, is not essential. A common relationship name among the Adamites may be shown, as well by association with the Rawlinson through their title *Már*, as by preservation of a tradition that of the common ancestor.

A remark it, so far, is that not only the Persians, Greeks, and Latin war-god probably the Hindus, but also the Celtic peoples French writer connected with the Medes or *Mad*, and through them

with the *Akkad*. But among peoples supposed to be still more nearly allied to the Chaldæans, we may expect to find references to the mythical ancestor of the Adamic division of mankind. According to old tradition, indeed, *Ad* himself was the primeval father of the original Arab stock. Moreover, the dialect of the Mahrah, where pure Arab blood is supposed still to exist, is called the language of *Ad*. It can hardly be doubted that a reference to the same mythical personage is also contained in the name of the great deity of the Syrians, *Adad*, "King of Kings," whose title implies the idea of "fatherhood." Nor are there wanting traces of the primeval *Ad* among the Egyptians. Mr. William Osburn states that the name of the local god of On or Heliopolis "is written on the monuments with the characters representing the sound *a, t, m*." This God was associated with the setting sun, and he was placed with the gods of the other cities of the Delta, a distinction he received, says Osburn, "for the triple reason, that he was the local god of the capital city, that he was the father of mankind, and that he was the ruler and guide of the sun, the common dispenser of earthly blessings to all men." *Atum* thus becomes identified with the Hebrew *Adam*, and although the description given by Osburn of the Egyptian deity may require some qualification, yet that identification is strengthened rather than weakened by other considerations. Bunsen says that the office of *Atum* in the lower world is that of a judge, and he supposes from this that at one time he may have been a Disputer. He does, indeed, bear much the same relation to man as *Dis* himself. In the Ritual of the Dead, the souls call him father, and he addresses them as children. Sir Gardner Wilkinson says that *Atum*, or *Atmoo*, is always figured with a human head and painted of a red colour. This seems to confirm the idea derived from his name, that this deity was related to the Hebrew *Adam*, with whom the idea of *ruddiness* was undoubtedly associated. The human form of the Egyptian *Atum* shows, moreover, that he was considered as peculiarly connected with man.

It has now been shown that not only are the peoples mentioned in the *Toldoth Beni Noah* rightly classed as descendants of the mythical *Ad*, but that the Asiatic Aryans, with the allied peoples of Europe to the furthest limits of the Celtic area, may also well be thus described. The ancient *Mad* belonged, however, to the great Scythic stock, and hence all the Turanian peoples, including the Chinese, may doubtless be classed among the Adamites. Professor Max Müller states that the Chinese *Tien*, heaven, with which the Hunnish *tang-li* and the Mongolian *tengri* are identifiable, is compounded of *ta*, great, and *yih*, one: meaning "the One, the Exalted." The Laps, however, have a

god, *Radien*, answering to the Celtic *Adien*, and we may have in the initial syllables of these words a point of connection with the mythical *Ad*.

There is some ground, therefore, for asserting that the Adamites include all the so-called Turanian and Aryan peoples of Asia and Europe, with the Hamitic and Semitic peoples of Western Asia and Northern Africa—in fact, the yellow, the red, and the white races, as distinguished from the darker peoples of the tropics. But even these limits may perhaps be extended. One of the solar heroes of the Volsung Tale is *Atli*, who becomes the second husband of Gudrun, the widow of Sigurd, Sigurd himself being the slayer of the dragon Fafnir, who symbolises the darkness or cold of a northern winter—the Vritra of Hindu mythology. This dragon enemy of Indra was also called *Ahi*, the strangling snake, who appears again as *Atri*, and Mr. Cox supposes that the name *Atri* may be the same as the *Atli* of the Volsung Tale. *Atli*, who in the Nibelung song is called *Etzel*, overpowers the chieftains of Niflheim, who refused to give up the golden treasures which Sigurd had won from the dragon, and he throws them into a pit full of snakes.

The connection of the Teutonic hero with the serpent is remarkable; for in the Mexican mythology we met with a divinity having almost the same name, and associated with the same animal. Humboldt tells us that the Great Spirit of the Toltecks was called *Teotl*; and Hardwicke says that *Teotl* was the only God of Central America. If so, however, he was a serpent deity, for the temples of Yucatan were undoubtedly dedicated to a deity of that nature. It is not improbable, however, that *Teotl* was really a generic term, agreeing in this respect, as curiously enough in its form, with the Phœnician *Taaut* (*Thoth*).

The God to whom the temples of Yucatan were really dedicated appears to be *Quetzal-coatl*, by some writers called the feathered serpent, a title belonging rather to his serpent-father *Tonacatlcoatl*. This *Quetzal-coatl* was the mysterious stranger who, according to tradition, founded the civilisation of Mexico, agreeing thus in his character of a god of wisdom with the Egyptian *Thoth*; reminding us of the resemblance of the name of this deity to that of the Toltecan *Teotl*. But the first part of the name of the Mexican *Quetzal-coatl* no less resembles that borne by the Teutonic deity, *Etzel*. *Co-atl* signifies the “serpent,” while *quetzal* would seem to have reference to the male principle; and thus the idea expressed in the name of the Mexican god is the male principle represented as a serpent. *Quetzal-coatl*, moreover, is said to be an incarnation of *Tonacatlcoatl*, who is the male-serpent, his wife being called *Cihua-coatl*, meaning, literally, the “woman of the serpent,” or “female serpent.” In

the identification, then, of *Atli* or *Etzel*, who consigns his enemies to the pit of serpents, with the great serpent *Ahi* himself, we have a ground of identification of the Teutonic deity with the Mexican serpent-god *Quetzal-coatl*. This view loses none of its probability if the latter is, as Mr. Squire asserts, an incarnation of the serpent-sun, or rather a serpent incarnation of the sun-god, since *Ahi* himself is a solar deity. [In the religious symbols used by the Mexicans, we have another point of contact with the Asiatic deities. The sacred *Tau* of antiquity has its counterpart on the Mexican monuments. The Mexican symbol perfectly represents the cross form of the *Tau*, but it is composed of two serpents entwined, somewhat as in the caduceus of Mercury. That the *Tau* itself had such an origin we can well believe, seeing that the name of the letter *Tet* ($\theta\eta\tau\alpha$) of the Phœnician alphabet specially associated with *Thoth*, of whom the *Tau* is a symbol, is that of the God himself, as well as meaning "serpent."]

If the comparison thus made between the Mexican and Teutonic mythologies is correct, the further analogies pointed out by M. Brasseur de Bourbourg may be well founded. Thus the Mexican *Votan* or *Odon*, supposed to be the same as *Quetzalcoatl*, may be in reality none other than the Scandinavian *Odin*, *Woden*, or *Wuotan*, who also was a sun-god; and whose name seems to be connected, through the root *vad*, with the Semitic *ata*, to come, with which there is reason to believe the name of the mythical *Ad* may also be connected.

Nor is there wanting confirmative evidence of such an affinity between the peoples of the Old and the New Worlds as that supposed. Mr. Tylor, in his recent work, points out that the Roman game of *bucca-bucca*, referred to in a passage of Petronius, is still retained as the English nursery game; "Buck, buck, how many horns do I hold up?" The meaning of this formula is not given, but, from the fact that the witch's devil of the middle ages was represented as a buck or goat, we can hardly doubt that the buck or *bucca* of the game referred to the evil spirit. The devil was, indeed, called by the Cornish Celts *bucka* (Welsh *bwg*), a hobgoblin, a name which is evidently connected with the Russian *buka*, a sprite, and with the *Bog* of Slavonic and allied languages. We have, no doubt, the same word in the name of the Finnic sky-god *Ukko*. Of this again we seem to have traces, not only in the Kalmuck *Bürkhan* and the Mantchoo *Ab-ka*, but also in the Hottentot *Tegoa* (Kafir, *Tixo*), the Supreme God; and in the word *yakko*, demon, the name given to the aborigines of Ceylon by their Hindu conquerors. But the root of this word is met with again among the American tribes. The Hurons believe the sky to be an *oki*, or demon; this name being

also that by which the natives of Virginia knew their chief god. The same word appears to enter into the name of the Algonquin god of the North Wind, *Kabibon-okka*, as also of the Muyscan Moon goddess, *Huyth-aca*. Whether the Algonquin Great Spirit, *Kitchi Manitu*, has preserved the same word, is questionable; but it is noticeable that in the mythology of Kamtschatka the first man is called *Haetsh*, and he is the son of *Kutka*, the Creator, whose name, by the allowable change of *t* for *k*, becomes almost the same as the Finnic *Ukko*. The word *oki* may, moreover, be found with merely the vowel change, among the Islanders of the Pacific. Thus the Polynesian fire-god is *Mahu-ika*, the last syllable of which is doubtless connected with *akua*, meaning, like the American *oki*, spirit, or demon. The same root is met with again in *Tiki*, the Rarotongan form of *Maui*, the divine ancestor of the New Zealanders, and the *Tii* of the Society Islands; also in *Akea* the name of the mythical first king of Hawaii. *Tiki* is probably only another form of *Ta-ata*, with the change of *k* for *t* (as in *akua* for *atua*); and it is remarkable that this name of the Polynesian First Man is really that of the mythical ancestor of the Adamites, reversed, however, and with the addition of the word *ata* (*aka*), spirit, which I have shown to be connected with the name for God among so many independent races.

These mythological coincidences are, indeed, so strongly supported by similarity of customs and linguistic affinities, that there can be no difficulty in classing the Mexicans, and kindred American peoples, and even the lighter Polynesians, with the Adamites. This being so, a still broader generalisation than any yet attempted may be made as to the peoples to be included in the Adamic division of the human race. The simplest classification of mankind, according to cranial conformation, is that of Retzius into dolichocephali, or long-heads, and brachycephali, or short heads. The Mexicans, and other peoples of the western part of the American continent, belong to the latter category, as do also the inhabitants of the greater part of the area of Asia and Europe. In China, and in the southern part of Asia as well as of Europe, the various peoples are chiefly long-headed, and this is the case with the Hamitic population of Northern Africa. The latter are, however, certainly much mixed with the native African element, which is purely dolichocephalic, exhibiting traces of its prognathism; and it is far from improbable that originally they were brachycephalic, like the allied peoples of Western Asia. Such also, would I suggest, was the case with the long-headed but orthognathous European and Asiatic peoples we know as Aryans; and with the Chinese and the lighter Polynesians, who are now mostly dolichocephalic. Throughout all the regions where these peoples are found there would appear to

have been an indigenous long-headed stock, which has more or less nearly absorbed the brachycephalic element, which was introduced long ages ago from the vast regions of Central Asia, and which, for want of a better term, may be called Scythic. Subject to this qualification, it may probably be said that Adamic and short-headed are synonymous terms, and that among the descendants of Father *Ad* may, therefore, be classed all the peoples who are embraced in the great brachycephalic division of mankind, or, who would have belonged to it, if they had not been physically modified by contact with peoples of the more primitive dolichocephalic area.

How far the Adamites have trespassed on this area it is difficult to determine. That they have become mixed with the peoples of the African continent to a much larger extent than is usually supposed I fully believe. The Hottentots, at its extreme limit, are no doubt a residual deposit of such intermixture; while the great family to which the Kafirs belong furnish evidence of it in various particulars. The Adamites appear also to have spread throughout the archipelagos of the Pacific, furnishing an explanation of the many customs and myths in which the Polynesian Islanders agree with Asiatic peoples. Nor are the Adamites much less widely spread throughout the American continent. Apart from what Professor Busk affirms, that a broad type of head is to be met with on the coast all round South America, peoples allied to those of Mexico and Central America would seem to have occupied many of the West Indian Islands, and to have penetrated through the central portion of North America to the Great Lakes. Wherever the Adamites have come into contact with the long-headed pre-Adamic stock, they have either made these to disappear, or, while having their physical structure somewhat modified by intermixture, they have established a supremacy due to their greater vigour and mental energy. It is difficult, indeed, to say where the descendants of *Ad* are not now to be met with, or where the pre-Adamite is to be found uninfluenced by contact with them.

Before concluding, it will be well to endeavour to ascertain the origin of the tradition as to *Adam* or Father *Ad*. According to usually received teaching, Adam and Eve were the actual first parents of the human race, or, at all events, of the Adamic portion of it. Whether or not this idea is correct I shall consider as briefly as possible, premising that if, as Bunsen suggests, the existence of the other antediluvian patriarchs be mythical, so also must be that of the Adam from whom they are said to have sprung.

The Semitic word *ADaM* conveys several ideas. In the form *Adamah* or *Adami* it has reference to the *earth* or *soil*, but

primary sense was either "red" or "man". Probably a double meaning was conveyed in the name of the Egyptian god Atum, whose representation was that of a red man. It must be noted, however, that the traditional ancestor is usually styled, not Adam, but simply *Ad*; and this primitive root may have had some other signification, analogous perhaps to that of *Eve* (*Hhavvâh*), "the mother of all living." This word, which denotes "life", is from *hhayvâh*, to live, to give life—the allied word in Arabic being *haywân*, and the Arabic name for Eve becoming *hawwa*. Now, in the Celtic dialects, *ad* forms the root of words denoting vegetable vitality. In Welsh, moreover, it is one of the elements of *tad*, a father; the other element, *ta*, denoting, among allied senses, "a supreme one", reminding us of the Chinese *ta*, great; and connected with it being *tras*, kindred, affinity. Turning, however, to Eastern languages, we find that the old Egyptian had a word *ti*, with a sense analogous to that of the Welsh *ta*; and also a verb *ta*, to give, which is found in Hebrew, as 'atah, to come, and in Arabic as 'ata, to give, or to bring forth. It is evident that the primitive root, consisting of the dental *t* or *d*, preceded or followed by a vowel sound, had associated with it the idea of activity, and probably of paternity. Thus it seems to form the final syllable of the Sanscrit *pi-ta*, a father, a word which is found under somewhat varying forms in the several Teutonic and other Aryan languages. In the old Akkad speech, indeed, *ad* itself signifies "a father", and we are justified, therefore, in supposing that when this word was used as the name of the mythical common ancestor, it had a sense analogous to that which "Eve" expressed, *i.e.*, "the father of life, or of all living." In Adam and Eve, therefore, we may have a reference to the male and female principles which, in the philosophy of the ancients, as in that of the Chinese and some other Eastern peoples, pervade all nature, and originate all things, applied, particularly, however, to the human race. But Adam was not the name given at first to this mythical father of the race. The Egyptian *Atum* was originally a cosmogonic deity. Bunsen states that the name of this god may be resolved into *At-Mu*, meaning "Creator of the mother or night". The sense of this, however, is not very apparent, and I would suggest that the term *Adam* (in Egyptian *Atum*) was formed by the combination of the primitive *akkad* words *Ad*, father, and *Dam*, mother. It would thus originally express a dual idea, agreeably to the statement in Gen. v, 2, that male and female were called "Adam". This agrees perfectly with the Persian tradition which made the first human being androgynous. When the dual idea expressed in the name was forgotten, Adam became the Great Father, the Great Mother receiving the name Eve (*Hhavvâh*), *i.e.*, living or life.

DISCUSSION.

Mr. LEWIS said that the classification of the human race by the form of the skull only would be very simple and convenient were there no other characteristics to be regarded; but the colours of eyes, hair, and skin seemed to him to be equally important, and were found in almost all varieties with all kinds of skulls; and if he accepted the author's theory that these varieties were the result of the mixture of the broad-headed descendants of Adam with those of some long-headed people existing before him, he would rather go a step further and uphold the unity of the whole of humanity. With respect to Aedd (which he thought was pronounced Aeth), he believed the Welsh identified him with Æneas the Trojan.

Dr. CARTER BLAKE, while agreeing that Mr. Wake's paper was most suggestive, failed to see the direct connexion between "Ad" and the brachycephalic races. If there was such a person as "Ad," we only knew of him by Shemitic tradition; and the Hebrews, who claimed especially to be descendants of Ad-am, were undoubtedly dolichocephalous. He glanced over the principal characters of the Phœnician, Assyrian, and Syrian skulls, which also appeared to have been dolichocephalous, and protested against the assumption that any Mongoloid affinity was shown by the Chaldeans, so far as any present information was before us. The theory that the Chinese, as a whole, were dolichocephalous, was met by the measurements of many crania from Southern China, which showed resemblances to the Siamese, the Burmese, and even to the Malay. In America, also, Dr. Carter-Blake could not see the relationship between the brachycephalous races of the high mountains of the west and the Chaldeans, or Akkad. With regard to the Egyptian deity At-um, which was painted red, we must remember that there is a tendency in all tropical and subtropical dark-haired races to exaggerate the beauty and almost to deify the xanthochroic, or light-haired individuals. Those in South America who were called *rubio* or *rojo* were especially sought out in marriage, and regarded with greater respect by the more common dark-haired races, and might, by the tendency of man to deify the exceptional or the rare, in time become deities.

Dr. CHARNOCK was satisfied with the usual derivation of the name *Adam* from a Hebrew word signifying "to be red," "to be beautiful," and as a noun "man;" but he did not deny that it might come from a name "*Ad*." It seemed to be admitted on all hands that Noah was deified at Babylon soon after his death, and Noah is found in proper names under the form of *Anu* or *Ani*, as in Telani, etc. It was stated that the Keltic *ad* formed the root of words denoting vegetable vitality, and that in Welsh it is one of the elements of the vocable *tad*, the other element being possibly connected with the Chinese *ta*; but synonymous words are found in the Gotho-Teutonic languages. The first part of the word has nothing to do with the Chinese *ta* (great), and *tad* is simply an extension of *ta*, which like *da*, *pa*, *ma*, is one of the first sounds uttered by in-

fants. Neither did he (Dr. Charnock) see the force of connecting the Scandinavian Odin either with the Mexican root *votan* or *odon*, or the Semitic *ata*, "to come." There was no pretence for Mr. Maclean's rendering of the name *Gaidal* "bright or fair man." It is derived from an old word *al*, signifying "other," "foreigner" (from *alios*, ἄλλος). With a prefix we get *Gal*, *Gael*, *Galli*, *Walli*, *Welsh*, and also *Γάλαται*, Κέλται, Kelt. He agreed with the author of the paper as to the prefix *m*. He (Dr. Charnock) had also found it as a prefix in river names, as the Mosa in Italy, and the Mosa, Maas, or Meuse, in Holland, etc., which were simply Ouse or Oise, with *m* prefixed.

The PRESIDENT said that even those who, like himself, were not prepared to accept Mr. Wake's conclusions, would, he was sure, agree that the subject was one of very great interest.

Mr. WAKE, in reply, said that he was prepared to hear many of his conclusions dissented from, especially that as to a mythological connection between the Mexicans and Scandinavians. The whole subject was, however, worthy of being thoroughly examined, and if this were the result of his paper, the object with which it had been written would be attained.

The PRESIDENT announced that the auditors of the accounts for 1871 were Mr. H. G. Bohn and Mr. Archibald Hamilton; and adjourned the meeting till February 5th.

ANNIVERSARY MEETING.

JANUARY 15TH, 1872.

SIR JOHN LUBBOCK, Bart., M.P., F.R.S., *President, in the Chair.*

THE minutes of the last general meeting were read and confirmed.

The TREASURER submitted his Statement of Accounts for 1871. (See next page.)

The PRESIDENT appointed as Scrutineers of the Ballot, Mr. W. D. Child and Mr. Richard B. Martin, and declared the ballot to be then open.

The following Report was read :

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

Abstract of the Treasurer's Statement of Income and Expenditure for the year 1871.

VOL. I.

RECEIPTS.		PAYMENTS.	
	£ s. d.		£ s. d.
Balance at formation of Institute, after deducting subscriptions for 1871, received prior to the amalgamation :		By payments on account of Anthropological Society	373 8 6
Anthropological Society	26 5 3	" " Ethnological Society ..	151 19 3
Ethnological Society	33 14 1	By cost of publications, Anthropological Institute...	61 7 2
Subscriptions received, 1871.....	59 19 4	By sundry expenses.....	148 9 2
Life Composition	927 9 3	By salaries and commissions	182 3 2
Payment on account of Arrears of Subscriptions :	21 0 0	Balance	234 3 4
Anthropological Society	56 16 0		
Ethnological Society	19 19 0		
Sales of Publications :	76 15 0		
Anthropological Society	50 6 6		
Ethnological Society	13 10 6		
Sale of weapons	63 17 0		
	2 10 0		
	<u>£1151 10 7</u>		<u>£1151 10 7</u>

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REPORT of the COUNCIL of the ANTHROPOLOGICAL INSTITUTE OF
GREAT BRITAIN AND IRELAND for 1871.

IN making their first Annual Report to the members of the Institute, the Council feel that they can do little more than present a simple record of facts. Although convinced that the union of the Ethnological and Anthropological Societies can only result in the advancement of the important science of man, yet how far this anticipation would be at once realised was of course somewhat uncertain.

The Institute may be congratulated on the number and quality of the papers read before it during the past year. They are as follows :

- On the Development of Relationships. By Sir John Lubbock, Bart., M.P.
- The Racial Aspects of the Franco-Prussian War. By Mr. J. W. Jackson.
- On the Migrations of the Georgians, Circassians, and Amazons, and their connection with the Tibeto-Caucasian Race. By Mr. Hyde Clarke.
- On some recent Anatomical Writings bearing upon Anthropology, by Professor Luigi Calori of Bologna. By Dr. J. Barnard Davis.
- On the Builders of the Megalithic Monuments of Britain. By Mr. A. L. Lewis.
- On the Results obtained by the Settle Cave Exploration. By Mr. W. Boyd Dawkins.
- On the Position of the Australian Languages. By Dr. W. H. I. Bleek.
- A Comparative Table of the Australian Languages. By the Rev. G. Taplin.
- On the Mental Characteristics of Primitive Man as exhibited in the Aborigines of Australia. By Mr. C. Staniland Wake.
- The Stone Monuments of the Khasi Hill Tribes; and on some of the Peculiar Rites and Customs of the People. By Major Godwin-Austen, F.R.G.S.
- On Chinese Mohammedans. By Dr. James Anderson.
- On Dreams, Sympathy, Presentiment, and Divination, and other analogous Phenomena among the Natives of Natal. By the Rev. Dr. H. Calaway.
- On the Quissama Tribe of Angola. By Mr. F. G. H. Price.
- On the Races of Patagonia. By Lieut. George C. Musters, R.N.
- On Chinese Burials. By Dr. Eatwell.
- On the Mode of Preparing the Dead among the Natives of the Upper Murray River, Queensland. By Mr. Albert McDonald.
- On Forms of Ancient Interment in Antrim. By Dr. Sinclair Holden.
- On Analogies and Coincidences among Unconnected Nations. By Mr. Hodder M. Westropp.
- On the Order of Succession of the several Flint and Stone Implement Periods in England. By Mr. J. W. Flower, F.G.S., Treasurer.
- Notes on some Archaic Structures in the Isle of Man. By Mr. A. L. Lewis.
- On Anthropological Collections from the Holy Land. By Captain Richard F. Burton, F.R.G.S., late H. M.'s Consul at Damascus.
- Notes on Flint Implements from Bethlehem. By Mr. John Evans, F.R.S.
- Notes on Human Remains from Palmyra, etc. By Dr. C. Carter Blake.
- The Anthropology of Auguste Comte. By Mr. Joseph Kaines.

During the past year ten ordinary members of the Institute have died, and thirty-four have resigned. To fill up the vacancies thus created, forty-two new members have been elected.

The balance is slightly against the Institute; but this is not surprising when it is remembered that one result of the union of the two old Societies was the making of strong efforts to get in subscriptions from members in arrear, some of these members being thus induced to resign. In addition to these resignations, about seventy persons, the recovery of whose subscriptions in arrear may be considered as hopeless, have been struck off the list of members. The whole number of ordinary paying members who may be treated as good is 489, and life members 96; altogether 585. A revised list is in preparation, which it is hoped will be ready for issue to the members of the Institute at an early date.

The following gentlemen have become associated with the Institute; namely, W. S. W. Vaux, Esq., M.A., F.R.S., elected as an Honorary Member; Morton Allport, Esq., F.R.S., Tasmania, elected as a Corresponding Member; and George Lattimer, Esq., M.A.I., of Puerto Rico, and Logan D. H. Russell, Esq., M.D., of Bonny, West Coast of Africa, appointed Local Secretaries of the Institute.

Valuable additions to the Library have been received during the past year from the following public bodies and individuals:

W. McPherson, Esq.; Dr. J. Barnard Davis; Professor Steenstrup; Professor Semper; B. Quaritch, Esq.; W. A. Hammond, Esq.; G. Tate, Esq.; Dr. John Thurnam; Charles Darwin, Esq.; Lessel H. Griffin, Esq.; Dr. Richard King; C. O. Groom-Napier, Esq.; James Burnes, Esq.; Von H. Schaaffhausen; J. W. Jackson, Esq.; S. Phillips Day, Esq.; C. B. Radcliffe, Esq., M.D.; Dr. F. Bateman; Robert Dunn, Esq.; T. Squire Barrett, Esq.; E. Balfour, Esq.; Clements R. Markham, Esq., C.B.; Hon. E. G. Squier; Professor P. Mantegazza; Rev. John Campbell; J. F. Collingwood, Esq.; Major F. Millingen; Dr. Julius Haast; F. W. Rudler, Esq.; Gav. A. Garbiglietti; Professor G. E. V. Schneevoogt; M. L. A. J. Quetelet; Dr. John Shortt; J. A. Garfield, Esq.; Sir Roderick I. Murchison, Bart.; Captain Bedford Pim; Sir John Lubbock, Bart., M.P.; Hon. W. Owen Stanley, M.P.; Professor B. Gastaldi; M. Alglave; Professor A. Ecker; Dr. Crestadoro; J. A. Challice, Esq.; James Dowie, Esq.; Scott F. Surtees, Esq.; J. Williams, Esq.; M. A. de Quatrefages; Dr. R. H. Collyer; Rev. W. Harpley; W. H. Archer, Esq.; W. Pengelly, Esq., F.R.S.; Captain Richard F. Burton; Society of Antiquaries of London; Royal Society; Royal United Service Institution; Leeds Literary and Philosophical Society; Geological and Polytechnic Society of the West Riding of Yorkshire; Royal Academy of Sciences, Amsterdam; American Philosophical Society; Imperial Naturalists' Society of Moscow; Prudential Assurance Company; the Government of India; Royal Society of Victoria; Anthropological Society of Paris; Royal Geographical Society; Canadian Institute; Literary and Philosophical Society, Liverpool; the Dresden Academy; Peabody Academy of Science, U.S.; Essex Institute, U.S.; Museum of Comparative Zoology, U.S.; Boston Society of Natural History, U.S.; American Academy of Arts and Sciences; Smithsonian Institute; Board of Indian Commissioners; New Zealand Institute; Asiatic Society of Bengal; British Association; Philosophical Society of Glasgow; Royal Academy of Belgium; Imperial Academy of Sciences, Vienna; Royal Historical and Archaeological Association of Ireland; Geologists' Association; Hungarian Academy of Science; Anthropological Society of Vienna; Royal Institution of Cornwall; Society of Antiquaries of Scotland; Asiatic Society of Great Britain and Ireland.

The Council desire, as early as possible, to provide for the members of the Institute a complete catalogue of the works comprised in its library, which contains many valuable books of reference.

The only publication yet issued by the Institute is the *Journal* of its proceedings. This, it is intended, shall appear quarterly. The first number was a double one, and comprised not only papers read before the Institute, but also all the papers and proceedings of the old Anthropological and Ethnological Societies up to the date of the formation of the Institute. Some delay in the appearance of the quarterly numbers of the *Journal* has taken place, owing to there being no matter left over on the publication of one number for the ensuing one. In course of time, however, this difficulty will no doubt be got rid of.

The Council intend, whenever the financial position of the Institute will permit, to issue a translation of the second volume of Waitz's "Anthropologie", which Captain Richard F. Burton has kindly offered to edit, with notes, for the Institute.

The Council is sorry to say that Mr. F. W. Rudler has during the past year resigned his office of Sub-editor of the *Journal*; and they have appointed the Secretary, Mr. J. Fred. Collingwood, to that office, leaving the amount of his remuneration for future consideration.

The Institute has continued the exchange of publications with the several Societies and individuals who received, under such an arrangement, the *Journals* of the Anthropological and Ethnological Societies.

In order to understand the financial position of the Institute, it is necessary to go back to the date of the union of the two Societies. The liabilities taken over by the Institute from them amounted to £1311:1:8, after deducting the cash in hand. The Council are glad to be able to report that this sum has been reduced (partly by the sale of stock on hand, and partly by various sums received in respect of the arrears of subscriptions) to the sum of £837:13:5, all of which except £10 is due for printing. To this must be added, however, the liabilities incurred during the past year, and still unpaid, for the cost of the *Journal* and otherwise, which amount to a further sum of £456:3:2, making a total of £1293:16:7; against which the Institute holds available assets to the extent of £281:14:4, in addition to the arrears of subscription not yet collected, and the stock of publications, which is of considerable value. The gross income of the Institute derived from subscriptions and sale of publications for 1871, etc., as appears from the Treasurer's statement, being about £950 per annum, and the estimated current expenditure being about £800 per annum, the in-

come of the Institute shows a satisfactory surplus, and there is every reason to hope that the liabilities will be rapidly diminished.

In conclusion, the Council would urge all its members to impress upon their friends the great importance and interest of the sciences of Anthropology and Ethnology, and to do whatever may lie in their power in order to promote the objects for which the Institute was formed.

On the motion of Mr. MONCURE D. CONWAY, seconded by Mr. J. W. JACKSON, the Report was unanimously adopted.

The PRESIDENT then delivered the Address.

GENTLEMEN,—Your Council have considered it desirable that the President should deliver an address at our annual general meeting, and, although on the present occasion I was disposed to think that our evening might have been more profitably employed, still I was bound to follow their wishes, as no doubt the course adopted this evening will form a precedent for the future. We may, gentlemen, I think, congratulate ourselves on the position in which at the end of our first year we find ourselves; and we have, I trust, every reason to hope that the Society has before it an useful and prosperous career.

The number of those who feel an interest in our science is rapidly increasing; not only the philosophic interest, but the practical political importance of the questions with which we deal, is becoming more and more widely recognised. Within the limits of an address, it is, of course, impossible that I should refer to all the publications bearing on our science which have appeared during the past year; nevertheless it may be convenient that I should on this occasion call your attention to some of the most important.

The Academy of Macon has published the researches of the late M. de Ferry,* whose death is so great a loss to our science, together with notes and an appendix by M. A. Arcelin, and an anthropological supplement by Dr. Pruner-Bey. M. de Ferry describes in detail, giving numerous figures, the flint implements

* "*Le Maconnais Préhistorique. Mémoire sur les âges primitifs de la Pierre, du Bronze et du Fer en Maconnais.*" Par H. de Ferry. Avec notes, additions et appendice par M. A. Arcelin; accompagné d'un supplément anthropologique par le Docteur Pruner-Bey.

found by him at Charbonnières, a locality which, both in richness and in some other respects, offers a great similarity to the still more remarkable district of Pressigny le Grand. The objects found, which include lance-heads, axes, hammers, discs, implements like those first observed at Moustier, awls, flakes, etc., are of well-characterised palæolithic forms; and it is remarkable that, though these types are so abundant at Charbonnières, and somewhat less so at Vergisson, they are very rare in the rest of the district; M. de Ferry having only found one here and there, though he has searched carefully during many years. It is also interesting that scrapers are extremely rare at Charbonnières; M. de Ferry has only met with two; he figures one of them, and though it was probably used for scraping, it does not resemble the scrapers of the Neolithic period. Indeed, I have never seen a typical scraper which could be referred with certainty to the earlier Stone Age.

Another station, that of Solutrè, had already been described by the same author in the Norwich volume of the "International Congress of Prehistoric Archæology;" but we have now the advantage of several plates, which throw much light on the subject; giving us, for instance, a better idea of the flint implements; the characteristic forms of which are beautifully worked, leaf-shaped, lance-heads and arrow-heads. Some specimens, as, for instance, that figured in plate xxii, fig. 1, are almost worthy of Denmark. From the abundance of broken bones found at Solutrè, and other indications, the station was evidently a place of abode; and from the quantity of remains belonging to the reindeer, which, with the horse, formed the staple food of the inhabitants, M. de Ferry feels justified in referring the settlement to the so-called reindeer period. On the whole, the remains found at Solutrè bear a close resemblance to those of the Dordogne caves; and, as in that case, though the workmanship of the stone implements is finer than that which characterises palæolithic types, and the forms are different, still polished specimens are altogether wanting. Whether pottery was known during the so-called "Reindeer" period seems to be still doubtful. One or two fragments were found at Solutrè, but M. Arcelin expresses his doubts whether they belonged to the same period as the other

remains. It is true that M. Lartet mentions a piece of pottery as occurring in the cave of Aurignac; and M. Dupont met with fragments in most of the Belgian caves. These cases, however, are so exceptional that, on the whole, we have, I think, as yet no conclusive evidence that the use of pottery was known at this period. The men of Solutrè appear, like many northern nations of the present day, to have lived in sunk dwellings. This seems clear from the descriptions and plates given by MM. De Ferry and Arcelin; and they have also given strong reasons for concluding that the human remains found at Solutrè are those of persons buried in the pit-dwellings which they had occupied when alive. These remains are, therefore, really contemporaneous with the flint implements, etc.; a point on which I had hitherto entertained considerable doubt.

Under these circumstances the human remains possess great interest. They represent no less than sixty individuals, although the greater part of the burials had been destroyed by cultivation; and of those which remain, but few contained bones sufficiently entire to be of much use. Fortunately, however, several skulls have been recovered in an almost perfect condition; and, although there are differences among them as considerable as those between the Lapps and Finns, still Dr. Pruner-Bey finds that they all belong to the type characteristic of the circumpolar mongoloids of the present day.

The river Saône is gradually raising the plain through which it flows; and MM. De Ferry and Arcelin, taking the position of the Roman remains as a basis of calculation, have attempted to estimate the date of the neolithic and palæolithic periods. From a comparison of a number of cases, M. Ferry takes the accumulation since the Roman period to be 60 centimetres; the depth of the iron age remains to be 1.1mm.; of the bronze age layer 1.30; of the stone age, 1.50. This, he estimates, would give for the bronze age an antiquity of 3000 years; for the neolithic period of 4000 or 5000 years; while some of the palæolithic specimens would indicate a lapse of 9000 or 10,000 years. M. Arcelin adopts a somewhat different scale, assuming for the Roman layer a depth of 1m. deduced from 24 stations; he thus obtains for the Celtic iron age an antiquity of from 1800 to 2700 years; for the bronze

age, 2700 to 3600; for the neolithic, 3600 to 6700; for the palæolithic, 6700 to 8000. It is, however, unnecessary to point out how much of uncertainty, as well as of interest, there is in such calculations.

Sir Henry Maine's "Village Communities in the East and West," consisting of six lectures delivered at Oxford, will have been read with intense interest by all those who appreciate the importance of the science of man. The origin of property and the tenure of land seem at first sight so simple, that those who have not studied the question have probably never realised to themselves that there was any question to study. The curious organisation of the Russian "Mirs," the Slavonic land customs, the Indian Village Communities, seem at first sight something utterly strange and foreign to our ideas. Yet we have amongst ourselves a curious variety of tenures,—Gavelkind; Borough English; true Common land, which belongs to a community; Lammas land, which is private property for one part of the year and common land at another; and recent German writers, particularly V. Maurer and Nasse, have called special attention to this interesting subject. Indeed, the old Teutonic village seems, as a general rule, to have possessed a certain quantity of common land, divided almost invariably into three great fields; one of which was almost always in fallow. The arable land was divided into equal portions, one for each family, and the mode of cultivation was regulated by minute rules. The three fields were separated by grassy banks; and, though these have in most instances long disappeared, some still remain; for instance, at Oxford, where there was a very large commonable field, the three banks may still be seen near the branch of the North Western Railway leading to Cambridge. We have long been familiar with the linguistic affinity between India and Europe; our attention has been more recently called to the similarity existing between the megalithic monuments of the two countries; and it is, therefore, the less surprising, though not less interesting, to find in these village communities such remarkable analogies between the East and West.

In many respects, however, they are not only unlike but even opposite. The Teutonic mind has arrived at considering contract

as the basis of law ; in Hindostan, on the contrary, as in Primitive Communities generally, authority or custom are the great sources of law ; and Sir H. Maine assures us that under the new irrigation system, the distribution of water is arranged under a sort of fiction that the system has existed from all antiquity, although in fact, until the last few years, no artificial water supply has been thought of. The study of these ancient customs is by no means a matter of purely philosophical interest or of abstract science. "To those, indeed," says Sir H. Maine,* "who knew how strong a presumption already existed that individual property came into existence after a slow process of change, by which it disengaged itself from collective holdings by families or large assemblages, the evidence of a primitive village system in the Teutonic and Scandinavian countries had very great interest ; this interest largely increased when England, long supposed to have had since the Roman conquest an exceptional system of property in land, was shown to exhibit almost as many traces of joint-ownership and common cultivation as the countries of the north of the Continent : but our interest culminates, I think, when we find that these primitive European tenures and this primitive European tillage constitute the actual working system of the Indian village communities, and that they determine the whole course of Anglo-Indian administration."

To Mr. Lewis H. Morgan and the Smithsonian Institute, we are indebted for a most important work on systems of consanguinity and affinity of the Human Family. Whether Mr. Morgan's conclusions are eventually adopted or not, this work will not the less be a most valuable contribution to our science, giving us as it does, in addition to a great number of incidental facts, the systems of relationships of no less than one hundred and thirty-nine races and tribes. Mr. Morgan considers that there are two radically distinct forms of consanguinity indicated by his tables. "One of these (he says)† is descriptive and the other classificatory. The first, which is that of the Aryan, Semitic, and Uralian families, rejecting the classification of kindred, except so far as it is in accordance with the numerical system, describes collateral *consanguinii*, for the most part, by an augmentation or combination

* *Loc. cit.*, p. 61.

† *Loc. cit.*, p. 10.

of the primary terms of relationship. These terms, which are those for husband and wife, father and mother, brother and sister, and son and daughter, to which must be added, in such languages as possess them, grandfather and grandmother, and grandson and granddaughter, are thus restricted to the primary sense in which they are here employed. All other terms are secondary. Each relationship is thus made independent and distinct from every other. But the second, which is that of the Turanian, American Indian, and Malayan families, rejecting descriptive phrases in every instance, and reducing *consanguinity* to great classes by a series of apparently arbitrary generalisations, applies the same terms to all members of the same class. It thus confounds relationships which under the descriptive system are distinct, and enlarges the signification both of primary and secondary terms beyond their seemingly appropriate sense."

While, however, I fully admit the very important differences between the Hawaiian system and our own, they appear to me to be the extremes of a series; and even the most correct and advanced systems contain, I think, still within them traces of their lowly origin. Unable, then, to agree with him on so fundamental a question, I naturally differ on many minor points. He considers for instance that exogamy (to use the very convenient term suggested by Mr. McLennan), "is explainable, and only explainable, in its origin, as a reformatory movement to break up the inter-marriage of blood relatives, and particularly of brothers and sisters, by compelling them to marry out of the tribe." This seems to me very improbable; customs originate much more often, I believe, in experience of practical convenience, than in theoretical considerations.

I will not, however, on the present occasion, enlarge on Mr. Morgan's work, because I have already had the honour of laying my views on the development of relationships before the Institute in a paper read at our first meeting; yet, while differing from Mr. Morgan on some important questions, I have great pleasure in expressing my appreciation of the great value and interest of his researches.

We owe to Mr. E. B. Tylor an important and elaborate work, entitled "Primitive Culture: Researches into the Develop-

ment of Mythology, Philosophy, Religion, Art, and Custom." He commences with an introductory chapter on the Science of Culture; then follow one on the Development of, and two on Survival in, Culture; two chapters on Emotional and Imitative Language, and one on the Art of Counting; the rest of the book is devoted to Primitive Religion, under the heads of Mythology and Animism. In common, I believe, with all those who have devoted special attention to the science of man, Mr. Tylor is a firm believer in the general progress of the human race. The idea, he says, "of the original condition of man being one of more or less high culture, must have a certain prominence given to it on account of its considerable hold on public opinion. As to definite evidence, however, it does not seem to have any ethnological basis whatever." Of course, neither Mr. Tylor nor any of those who hold the doctrine of evolution in civilisation mean to deny that there are cases of degradation. Nations, like individuals, are always in danger of falling back; but in the struggle for existence to sink is to perish. Retrograding races diminish in numbers; improving races increase: and the consequence is that, as a whole, the human race advances. Mr. Tylor calls particular attention to certain cases of degradation. There are tribes, he says, "who are the very outcasts of savage life. There is reason to look upon the miserable Digger Indians of North America and the Bushmen of South Africa as the persecuted remnants of tribes who have seen happier days." Arrest and decline in civilisation, he says in another passage, "are frequent and powerful operations of national life." But he denies that the "dangerous classes" of our great cities can be fairly compared with savages. Their condition he considers to be worse than savagery; it is broken-down civilisation. "The savage life is essentially devoted to gaining subsistence from Nature, which is just what the proletarian life is not. Their relations to civilised life—the one of independence, the other of dependence—are absolutely opposite. To my mind, the popular phrases about 'city savages' and 'street Arabs' seem like comparing a ruined house to a builder's yard." Mr. Tylor lays great and just stress on cases of survival, as evidence of the general law of progress. Indeed we find, even among the most

civilised races, lingering ideas which are out of harmony with the rest, and characteristic of lower culture—cases, in fact, of survival or superstition. Thus, uncivilised man thinks that the will of the Deity can be ascertained by means of lots or dice; and, although such an idea seems to us utterly erroneous, yet we find even so great a man as Jeremy Taylor maintaining “that it is not improbable that God hath permitted the conduct of such games of chance to the devil, who will order them so where he can do most mischief.”

If I correctly understand Mr. Tylor's views on morals among savages, I do not agree with him; or, at least, I should not apply the terms he uses in the same sense. “The good are good warriors and hunters,” said a prairie chief; meaning, I presume, by a “good”, a successful and skilful warrior. If, then, Mr. Tylor observes, experience has led societies of savages to fix on certain qualities, such as courage and skill, as being virtues, and further to conclude that such virtues obtain their reward in another world, then their theories of future happiness and misery may be fairly looked on as belonging to morality, though at no high stage of development. But surely morality does not depend on admiration. No doubt, even among the lowest savages, some things are admired and some things are despised, and this may be the protoplasm which lies at the basis of the life of morality; but the whole question seems to be, whether savages are, in their lowest state, affected by moral considerations; and to define as “moral” any feelings by which they are influenced is surely no solution of the question.

Mr. Wallace, we know, has expressed a very different opinion. “Among people in a very low stage of civilisation,” he says, “we find some approach to a perfect social state.....Each man scrupulously respects the rights of his fellow, and any infraction of those rights rarely or never takes place.” It is with great diffidence that, on such a subject, I should express any opinion at variance with that of Mr. Wallace, but it certainly appears to me that this statement is inconsistent with the general testimony of travellers; though, no doubt, in cases where the communities are scattered and very small, so that all the individuals

* *Loc. cit.*, vol. ii, p. 81.

are more or less related to one another, there is little inducement to crime. One instance of honesty mentioned by Mr. Wallace certainly seems, at first sight, to bear out his high estimate of savage morals, and has, indeed, been quoted as doing so. At Waigiou he had paid several natives in advance for birds of paradise. One of these natives had been unable to obtain the number of birds agreed on: when the time came for Mr. Wallace's departure, this man was absent. Just, however, as Mr. Wallace was on the point of starting, he* "came running down after us, holding up a bird, which he handed to me, saying, with great satisfaction 'Now I owe you nothing.' These were remarkable and quite unexpected instances of honesty among savages, where it would have been very easy for them to have been dishonest without fear of detection or punishment."

At first sight, this no doubt seems a strong case. But is Mr. Wallace correct in supposing that this man might have been dishonest without fear of punishment? I think not. In another passage he tells us† that "the natives believe that all the animals I preserve will come to life again." "I have no doubt that to the next generation, or even before, I myself shall be transformed into a magician or a demigod, a worker of miracles, and a being of supernatural knowledge." To cheat such a being would surely be very dangerous; and, ungracious as it may seem, I think, therefore, that the above-mentioned act of honesty is hardly so striking as it appeared to Mr. Wallace.

I must not omit to mention an article by Mr. Bagehot, which appeared in the *Fortnightly Review* for last December. In it he gives a clear and admirable explanation of the manner in which the study of modern savages enables us to infer the moral and intellectual condition of our ancestors in prehistoric times. Without committing himself to all our conclusions, he expresses his entire concurrence with the method by which we are endeavouring, through the study of the present, to reconstruct the past; and such approval, coming from so calm and judicial a philosopher, seems to me most satisfactory. For my own part, I care comparatively little to establish my own views, if only we have a road open before us which will eventually lead to the truth. The

* "Malay Archipelago," vol. ii, p. 365.

† *Loc. cit.*, p. 263.

result of recent researches, says Mr. Bagehot, "seems to me to be, if I may sum it up in my own words, that the modern pre-historic men, those of whom we have collected so many remains, and to whom are due the ancient, strange customs of historical nations (the fossil customs we might call them, for very often they are stuck by themselves in real civilisation, and have no more part in it than the fossils in the surrounding strata)—prehistoric men in this sense were 'savages without the fixed habits of savages'; that is, that, like savages, they had strong passions and weak reason: that, like savages, they preferred short spasms of greedy pleasure to mild and equable enjoyment; that, like savages, they could not postpone the present to the future; that, like savages, their ingrained sense of morality was, to say the best of it, rudimentary and defective. But that, unlike present savages, they had not complex customs and singular customs, odd and seemingly inexplicable rules guiding all human life."

In this I entirely concur. To use Mr. Bagehot's striking expression, the mind of the modern savage is "tattooed" over with images, which had no place in the ideas of the original men. It is often said that certain customs and beliefs which are clearly pernicious, could never have been acquired, because any race with a tendency to them would be crushed out in the struggle for existence. The answer is, as Mr. Bagehot truly observes, that they "can only ruin a race contending with another race otherwise equal." Thus, if we consider the importance to man of the marriage tie, the family system, and strict morality, it is obvious that, if these advantages were ever general, the loss of them would tend to annihilation. A race could hardly lose them and live among others by whom they were retained. Hence their absence, or, at any rate, their feeble development, among races of existing savages, sufficiently indicates that they were not aboriginal. Again, it is easy to understand how a low form of religion, say fetichism, might be developed, if it was an improvement on what went before; but we may be sure that a fetichist people could never hold their own on equal terms against a race in possession of a higher and more noble faith.

During the last few days, Mr. Fergusson has published an elaborate work on "Rude Stone Monuments", which will prove

very useful on account of the number of illustrations, as well as the careful descriptions of megalithic monuments. The contemptuous manner in which Mr. Fergusson allows himself to speak of other scientific men, is, I think, to be regretted. The Danes, for instance, have done good service to archæology; and the statement, that "in Denmark anything that cannot be put into a glass case in a museum is so completely rejected as valueless that no one cares to record it," seems to me singularly unjust, since my impression is that the Danish Government have done more for the preservation of their national monuments than has been the case in any other country.

Speaking of the Germans, he says* that "they have not yet turned their attention to this class of their antiquities. They have hitherto been too busy sublimating their national heroes into gods to think of stones that tell no tales." And "as the investigation will probably have to pass through the solar myth stage of philosophy, it may yet be a long time before their history reaches the regions of practical common sense."

Not confining his attack to archæologists, he goes out of his way to assault the biologists also. The habit of burying the dead is, he says, "one of those peculiarities which, like speech, distinguish mankind from the lower animals, and which are so strangely overlooked by the advocates of the fashionable theory of our ape descent." I do not know on what evidence this statement is made; Mr. Tylor and Sir C. Lyell have both devoted most interesting chapters to the subject of language. Nor do I understand in what sense Mr. Fergusson uses the word "fashionable"; if he means popular, I can only say that my experience has led me to the opposite conclusion. If he means that the theory of evolution, in some form or other, is adopted by most eminent naturalists both in England and on the continent, I should have thought the fact might have induced some caution of expression on the part of one who, so far as can be judged from his writings, has never made any special study of biology. But, in fact, nothing has surprised me more in this work of Mr. Fergusson's, than the complete confidence and conviction which he feels in his own conclusions, even when they are opposed, as he

* *Loc. cit.*, p. 300.

himself admits, to the unanimous opinion of other archæologists. I must, however, be permitted to say that the views of archæologists are, I am sure unintentionally, very much misrepresented by Mr. Fergusson. He is, for instance, severe on the Danish system of classification; "little reliance," he maintains, "can be placed on the hard and fast distinction between the flint, bronze, and iron ages, which have hitherto been supposed to govern every determination of age in this science."* That this is a fair statement of the theory, I cannot admit. As far as I am myself concerned, I have over and over again called attention to the contemporaneous use of stone and metal, and pointed out the consequent necessity of caution in determining the age of any particular find. I do not believe that a single archæologist in this country holds the theory which Mr. Fergusson attributes to us all indiscriminately. In fact, Mr. Fergusson does not differ from other archæologists as regards the three ages. There need, he says,† "be no difficulty in granting that men used stone and bone for implements, before they were acquainted with the use of the metals. It may also be admitted that they used bronze before they learned the art of extracting iron from its ores." He thus admits the truth of the Danish theory; the divergence between his views and those of ordinary archæologists does not arise from a difference in theory, but from a different estimate of evidence.

Mr. Fergusson, as is well known, refers Stonehenge‡ and Abury (p. 89) to the time of King Arthur, and he has now convinced himself that all other English stone circles belong to the same period. Stennis and the other principal Orkney antiquities he refers to the time when the Vikings first established themselves in the islands, and before their conversion to Christianity. The monument of Carnac commemorates a battle "fought between the years A.D. 380 and A.D. 550—in fact, in the Arthurian age, to which we have ascribed most of those in this country."

* *Loc. cit.*, p. 14.

† *Loc. cit.*, p. 28.

‡ He alludes to the fact that Sir R. C. Hoare found several fragments of Roman pottery scattered about in the area of Stonehenge; but this is surely an argument for referring it to Roman times! If it was not constructed till the time of Arthur, how did the Roman pottery get there?

Some of the dolmens in Southern France, in his opinion, were constructed as late as the twelfth century.

The faith which Mr. Fergusson places in the accounts we possess of Arthur's history and battles seems to me the more surprising, since, as he himself tells us,* "Arthur had no contemporary history, and, instead of living in a highly civilised state that continued for ages after him, he was the last brilliant light of his age and race, and after him all was gloom for centuries. It was not till after a long eclipse that his name was seized upon in a poetical and an uncritical age as a peg for bards whereupon to hang their wild imaginings." Yet these "wild imaginings" form the basis of Mr. Fergusson's whole theory.

It is surely extremely improbable that all the principal megalithic monuments of England should belong to one half century, and commemorate the victories of one chief. Moreover, the contents of the Brittany tumuli, and of those surrounding Stonehenge and Abury, seem to me fatal to Mr. Fergusson's theory. The celebrated stone at Aberlemmo, of which Mr. Fergusson gives figures,† is referred to the tenth century; correctly, as he himself admits. It bears a battle scene on one side, a large cross and elaborate scroll work on the other. Surely such a stone as this can hardly belong to the same period as a monument like Stennis or the Ring of Brogar. In Spain, again, there is at least one church as early as the tenth or eleventh century actually built over a dolmen. Yet Mr. Fergusson considers that no megalithic monument "has yet made out its claim to an antiquity of more than two centuries, if so much, before the Christian era."‡ Stonehenge, Abury, and all similar monuments, are of one style and one period. "Either Stonehenge and Abury, and all such, are temples of a race so ancient as to be beyond the ken of mortal man, or they are the sepulchral monuments of a people who lived so nearly within the limits of the true historic times that their story can easily be recovered."§ We have already seen that he refers them to the period following the downfall of the Roman power.

It is, therefore, rather surprising to find that Mr. Fergusson

* *Loc. cit.*, p. 133.

† *Loc. cit.*, figs. 94, 95, pp. 268, 269.

‡ *Loc. cit.*, p. 508.

§ *Loc. cit.*, p. x.

does not consider either the Teutons or the Celts to have been a dolmen-building race; that, on the contrary, in his opinion, "the rude-stone style of art seems to have been invented by some pre-Celtic people, but to have been adopted by Celts, by Scandinavian, by British, and Iberian races—perhaps not always pure in their own countries, but always with considerable differences, which, when perceived and classified, will enable us to distinguish between the works of the several races as clearly as we can between the mediæval styles that superseded them."*

Elsewhere he tells us that this pre-Celtic dolmen-building people were a Turanian race. But as our megalithic monuments were all constructed by Celts and Teutons in post-Roman times, it is rather startling to be told that these races were not dolmen-building peoples, but that they borrowed this style of art from a prehistoric Turanian race, by whom none of our megalithic monuments were erected, and who have not left behind them a single illustration of their powers.

Nor can I reconcile this view with the theory which he supports in his chapter on Algeria (p. 408); namely, that these megalithic monuments are "merely the result of a fashion which sprung up at a particular period, and was adopted by all those people who, like the Nasamones, revered their dead and practised ancestral worship rather than that of an external divinity."

Again, Mr. Fergusson lays just stress on the similarity between the European and the Indian dolmens. He does not consider that the Western races borrowed the simpler forms of dolmen from India, but he adds "what they do seem to have borrowed is the use or abuse of holed stones, and the arrangement of external dolmens on the summit of tumuli combined with two or three circles of rude stone."† How the rude tribes of Western Europe, in the centuries darkened by the disintegration of the Roman Empire could have borrowed such ideas from still ruder tribes in India, I am at a loss to conceive. To me, on the contrary, it seems that such a construction is the natural development of the simpler dolmen, and the idea of leaving a hole for the passage of the soul is found also among other races; for instance, the Iroquois and Malagasy.

* *Loc. cit.*, p. 306.

† *Loc. cit.*, p. 507.

Although I do not attach so much importance as Mr. Fergusson to the distribution of megalithic remains in single countries, as, for instance, in France; considering that it is regulated rather by the distribution of suitable materials, and by the accidents of preservation; still, the presence of megalithic monuments in distant countries, such as Algeria and India, seems to me fatal to a theory which refers all our European examples to post-Roman times.

As regards India, it seems clear that there is a direct connection between the dolmen and the dagoba, but while most archaeologists would consider that the former had developed into the latter, Mr. Fergusson on the contrary considers that the dolmen is merely a degraded dagoba. Even as applied to India, this theory seems to me, I confess, surrounded with difficulties; but as regards Europe it is surely quite untenable, if we remember that our dolmens are, as Mr. Fergusson admits, identical with those of India, and that we have on this continent no dagobas from which they can have degenerated.

On the whole then I must confess myself altogether unable to concur in Mr. Fergusson's views. No doubt the custom of burying in tumuli, and even perhaps of constructing dolmens, continued until long after Roman times; but it commenced at a much earlier period, and I have elsewhere given reasons which still seem to me unshaken, for referring some of our principal monuments to pre-Roman times; while, as regards many others, it seems to me that we can at present only confess our entire ignorance.

Dr. Dupont has published a report of his researches in the Belgian caves, undertaken on behalf of the Government, on the instance of Prof. Van Beneden and the Royal Academy. Here, as elsewhere, human remains, in other than a fragmentary condition, are unfortunately very rare. Two skulls have however been obtained from one of the caves near Furfooz, one of which is nearly perfect. It has been already described, and according to M. Pruner Bey is neither decidedly dolichocephalic nor brachycephalic, but intermediate as regards length, and belonging to the Mongoloid type. Dr. Dupont refers this skull to the Reindeer period. Of all the Belgian caves, the Trou du Cha-

leux appears to be the richest in flint implements. Dr. Dupont has obtained from it more than thirty thousand specimens, not one of which shows any trace of polish. Dr. Dupont terminates his report by a reference to the researches of M. l'Abbé Bourgeois, and appears satisfied that we have sufficient evidence as to the existence of man in Miocene times.

The continued destruction of Prehistoric monuments is a fact which, I am sure, we all deeply regret, and which reflects little credit on us as a nation. This year a portion of Abury, the grandest monument of its kind in this country, perhaps in the world, was actually sold for building purposes in cottage allotments. Fortunately the Rev. B. King, the Rector of Abury, knowing the interest I felt in that great national monument, wrote to me on the subject, and mentioned a sum for which it might be rebought and thus preserved. I at once authorised him to offer the amount in my name, and I am happy to say that it has been accepted; those who had taken the allotments having agreed to exchange them for other bits of land. This danger is therefore, I hope, averted, but it seems to me that as a nation we ought to take these monuments under our protection, and that it is really disgraceful to allow them to be broken up, as is too often the case, for the mere value of the stones of which they consist, or the land on which they stand. It is my intention next session to ask for leave to bring in a bill which our excellent Treasurer, Mr. Flower, has very carefully prepared, and which I hope will have the effect of checking the destruction of these interesting remains. I am happy to say that I have already promises of very valuable support.

But, Gentlemen, I must conclude. There are many other works and memoirs to which, if time permitted, I should have been glad to refer. Bastian's Supplement to the "*Zeitschrift für Ethnologie*," and "*Ethnologische Forschungen*", for instance, contain a mass of valuable information, less useful however than could be wished on account of the incompleteness of the references. The "*Zeitschrift für Ethnologie*" itself, the "*Arch. für Anthropologie*," the "*Matériaux pour servir*," and many other scientific periodicals; last, not least, our own Journal, contain a number of valuable and interesting memoirs.

Some very interesting travels have also appeared during the past year; as, for instance, Mr. Musters' "Life among the Patagonians", Shaw's "Visits to High Tartary", Forsyth's "Highlands of Central India", Captain Burton's "Zanzibar", &c.

During the same period we have had the misfortune to lose by death some very valuable members of our Society. Sir Roderick Murchison, Lord Dunraven, Mr. Dendy, and Dr. Seemann, will be specially missed.

In conclusion, Gentlemen, I will only thank you for the support you have given me as your President during the past year, and assure you that if it be your wish that I should retain my office for a second season, it will be my earnest desire, in conjunction with the Council, to promote as far as possible the prosperity of our Society and the progress of our Science.

Mr. A. W. FRANKS moved, and Mr. BRABROOK seconded, a vote of thanks to the President, which was carried by acclamation.—The PRESIDENT returned thanks.

The following Obituary Notices were read :

OBITUARY NOTICES.

Dr. Seemann.—Dr. Berthold Seemann, the celebrated traveller and botanist, to quote from the *Times*, died at the Jávali Mine, in Nicaragua, on the 10th of October last. He was the son of William G. Seemann, and was born at Hanover, in the year 1825. After receiving an excellent education in the Lyceum of his native city, he obtained the decree of Doctor of Philosophy at the University of Göttingen, and was appointed, in 1846, naturalist on board Her Majesty's ship *Herald*, in which capacity he made a voyage round the world and three cruises to the Arctic regions in search of Sir John Franklin. In 1860 he was appointed by the Colonial Office one of the Royal Commissioners to the Viti, or Fiji Islands, for the purpose of ascertaining their fitness for a British colony, and he likewise explored, in a private capacity, many parts of North and South America. As a scientific writer Dr. Seemann was widely known by his "Narrative of the Voyage of H.M.S. *Herald*," published in 1853; a "Popular History of Palms," in 1855; the "Botany of the Voyage of H.M.S. *Herald*," in 1857; "Viti: an Account of a Government Mission to the Viti, or Fiji Islands," in 1862; "Popular Nomenclature of the American Flora;" "Paradisus Vindobonensis;" "Twenty-four Views of the Coast and Islands of the Pacific;" and "Dottings on the Roadside in Panama,

Nicaragua, and Mosquito," written in collaboration with Captain Bedford Pim, and published in 1869. He was also a frequent contributor to the leading scientific journals of London, and editor of the "Bonplandia", the "Journal of Botany, British and Foreign", and "The Flora of Esquimaux Land". He was a Fellow of the Linnæan Society of London, and Vice-President of the Imperial German Academy *Naturæ Curiosorum*.

"On Dr. Seemann's remarkable attainments as a man of science," writes a literary friend of his, "it would be superfluous to dwell before the audience collected in this place, to the concerns and interests of which he devoted so much time, knowledge, and energy. As little is it needful to recal his distinction among those who have travelled far and wide, and brought home rich and rare fruits. But surely few have been more happy in presenting the record of their experiences than he was—few have represented what they have noted and discovered with so light a hand and so clear a touch. There was singularly little foreign tincture in his English, no prosiness, no pomposity, but delicacy of expression and justice of taste; and, above all, an absence of egotism and self-presentment which is rare among travellers who have passed along tracks so little beaten. He had graceful talents as a dramatist, of which some of his scientific brethren may not have been aware. He had written more than one delicate comedy for the Thalia Amateur Association at Hanover, with a pretty theatre of its own, modelled, perhaps, on the Palladian Theatre at Vicenza. One of these, "Wild Roses," is published—a graceful and fresh work, which contains a rarity in drama—a new idea." H. F. C.*

Mr. Dendy.—Mr. Walter Cooper Dendy was born in the year 1794, educated at St. Thomas's Hospital, and, after a short and brilliant medical career, rapidly became President of the Medical Society of London. On the 2nd April, 1867, he became a Fellow of the Anthropological Society of London. Three months afterwards, on June 18th, in the discussion on Dr. Hunt's paper on "Physio-Anthropology", he delivered a speech which attracted great attention. A paper was read by him on "The Anatomy of Intellect" on Dec. 3rd, 1867, which well main-

* It will be of painful interest to the readers of the Journal to be informed that Mr. Henry F. Chorley, by whom the foregoing brief but genial and characteristic memoir of his friend Dr. Seemann was written, himself died on February 16th, 1872. Mr. Chorley was extensively known in the literary world as having been for thirty-five years the musical critic of the *Athenæum* newspaper. He was born on December 15th, 1808, at Ashton-in-Mackerfield, Lancashire. He was the author of numerous works on his special subject, and of several works of fiction. His elaborate and valuable paper on "Race in Music," read before the Anthropological Society, appeared in the *Journal of Anthropology*, October 1870, p. clv.

tained his reputation for scholarship. He was selected by the Council to read the first scientific paper in the session 1868, and on November 3rd read a paper which he had previously laid before the British Association at Norwich. This paper on Anthropogenesis (which only exists in abstract in the Journal of the Anthropological Society) contained a trenchant attack on the Darwinian doctrines, and produced an animated and elaborate discussion. At the 1870 meeting of the British Association at Liverpool he read a paper on the "Shadows of Genius," which is published at length in the "Journal of Anthropology." The 19th of June last was the last time Mr. Dendy spoke before the institute, on Mr. Westropp's paper "On the Analogies and Coincidences among unconnected Nations." During the last six months of his life acute disease of the heart confined him frequently to the house; yet the rooms of the Anthropological Institute and the reading-room of the British Museum were frequently visited by him. The attack which finally caused his decease was not heralded by many premonitory symptoms. It is believed that one of the last acts in life which he performed was to write a letter to Mr. J. Fred. Collingwood, on business of the Institute. Small in *physique*, especially suave and amiable in conversation or in debate, his familiar countenance will long be missed at our meetings; and his reputation will be maintained as a fervent student of the older schools of anatomy.

The following list comprises nearly all Mr. Dendy's printed works:—

"On the Cutaneous Diseases incidental to Childhood." London, 1827-8. 8vo. "A Discourse on the Birth and Pilgrimage of Thought." London, 1853. 8vo. "The Wild Hebrides." London, 1859. 8vo. "Portraits of Diseases of the Scalp." London, 1849. 4to. "Practical Remarks on Diseases of the Skin." London, 1837. 8vo. 2nd edition. London, 1854. "Legends of the Lintel and the Ley." London, 1863. 8vo. "On the Cerebral Diseases of Children." London, 1868. 8vo. "Phenomena of Dreams, and other Transient Illusions." London, 1832. 12mo. "Philosophy of Mystery." London, 1841. 8vo. "Book of the Nursery." London, 1833. 12mo. "Gleam of the Spirit Mystery." London, 1861. 8vo. "Hints on the Health and Diseases of the Skin." London, 1843. 12mo. 2nd edition. 1846. 12mo. "Beautiful Islets of Bretagne." London, 1857. 8vo. 2nd edition. 1860. 8vo. "Wonders of the Human Body. By Delta." Privately printed. *S. a. et l.*

C. C. B.

Sir Roderick Impey Murchison, Bart., K.C.B., D.C.L., F.R.S., etc.
—The great eminence of the late Sir Roderick Murchison, and

his intimate connection with the leading scientific bodies of Europe, will ensure such exhaustive notices of his labours in science that it is unnecessary here to do more than record the fact of his services to the late Ethnological Society. It was by his permission that that Society (of which he had been a member for ten years) held the series of brilliant and successful meetings, under the presidency of Professor Huxley, at the Museum of the School of Mines in Jermyn Street, which did so much to popularise the science, and to call out some of the latent energy and spirit of enterprise that undoubtedly exist in abundance among our members.

Sir DUNCAN GIBB, Bart., moved, and Dr. CARTER BLAKE seconded, "That the best thanks of the members be offered to Mr. C. Staniland Wake for his services as Director of the Institute."—Carried unanimously.

Mr. EDWARD CHARLESWORTH moved, and Mr. KAINES seconded, a vote of thanks to the retiring Members of Council, viz., Dr. John Beddoe, Mr. W. Boyd Dawkins, Dr. George Harcourt, Rev. Dunbar I. Heath, and Mr. S. E. Bouverie-Pusey.—Carried unanimously.

The report of the scrutineers was then brought up and read as follows:—

"We find that the officers and Council to serve for 1872 have been duly elected, viz:

"*President*.—Sir John Lubbock, Bart., M.P., F.R.S.

"*Vice-Presidents*.—W. Blackmore, Esq., Prof. Busk, F.R.S., Dr. Charnock, F.S.A., John Evans, Esq., F.R.S., George Harris, Esq., F.S.A., Prof. Huxley, F.R.S.

"*Director*.—E. W. Brabrook, Esq., F.S.A.

"*Treasurer*.—J. W. Flower, Esq., F.G.S.

"*Council*.—H. G. Bohn, Esq., Capt. R. F. Burton, James Butler, Esq., A. Campbell, Esq., M.D., Hyde Clarke, Esq., J. Barnard Davis, Esq., M.D., F.R.S., Robert Dunn, Esq., David Forbes, Esq., F.R.S., Col. A. Lane Fox, V.P.S.A., A. W. Franks, Esq., M.A., Sir Duncan Gibb, Bart., M.D., Joseph Kaines, Esq., Richard King, Esq., M.D., A. L. Lewis, Esq., Clements R. Markham, Esq., C.B., Capt. Bedford Pim, R.N., F. G. H. Price, Esq., C. Robert des Ruffières, Esq., F.G.S., W. Spottiswoode, Esq., V.P.R.S., C. Staniland Wake, Esq."

A vote of thanks to the scrutineers terminated the proceedings.

ANTHROPOLOGICAL MISCELLANEA.

THE KALMUCKS.*

Name and Origin.—The etymology of the name Kalmuck is interpreted in different ways. Some derive it from the Tartar *Khalimak*, which is as much as to say *He who remains behind*; others deduce it from two Mongol words, *Ghol* (fire) and *aïmak* (tribe); from whence *Ghol-aïmak*, *Khalmak*, and lastly *Kalmuck*, i.e., *Ardent People*. The Kalmucks primitively inhabited the countries north-east of the Chinese empire; viz., Dzoungarie: and participated in all the conquests of Djenghis Khan and of Batou in the east. At the commencement of the seventeenth century, they arrived on the shores of the Caspian Sea; and they have camped there to the present day in the immense steppes which extend on the right of the embouchures of the Volga.

Physical Characters.—The first glance of a Kalmuck suffices to recognise in him the model representative of the true Mongol type. They are of middle stature, robust and broad in the shoulders. Their skin is swarthy, face flat, fissure of the eyelids narrow and oblique, nose depressed, nostrils wide, lips thick, teeth white and regular, ears long and prominent, hair black, and beard thin.

Psychical Characters.—The principal trait in the character of the Kalmucks, after their simplicity, want of cleanliness, and laziness, is that, after the manner of all nomade people, they are extremely superstitious. The Kalmuck never undertakes any serious matter without having previously consulted a sorcerer. He never dares to kill a fly for fear of assailing the soul of one of his ancestors, which may perhaps animate this insect. When, on a journey, a Kalmuck perceives a certain bird which he esteems to be a good augury, he rejoices in this conjuncture, does not fail to manifest his satisfaction, and bows himself three times. As soon as he perceives a hare, on the contrary, he utters a cry, pursues it, and strikes a blow in the

* This notice of the Kalmucks of the Volga is translated from the Russian work entitled "Russia in Europe, under its Physical and Ethnographical Relations." By B. Liadov. St. Petersburg, 1861. It is considered to have been derived from another Russian author, Nebalsine. Nebalsine resided for a long time at Astrakhan, at the mouth of the Volga, on the Caspian Sea, and was employed at the "Court of Domains", which governs the Kalmucks. At this place he had occasion to study this people carefully and intimately; consequently, he is regarded as a great authority upon the Kalmucks. His account of them was published probably twenty years ago. The article now printed is vastly more complete than that upon the Kalmucks in the great work of De Pauly, "Les Peuples de la Russie."

air with his stick, in order to exorcise the misfortune which might happen. For the world he would not pick up a steel for striking a light found upon the way. To seat himself upon the threshold of the door, or warm his feet before the fire, he holds for a great impiety; and if it happens to any one to light his pipe with paper, it is certain that he will soon die.

Notwithstanding these superstitions of the Kalmucks, they are said to possess a good deal of intelligence. Their imagination especially is much developed, and they are sufficiently ingenious, which is proved by their tales and proverbs. Some of their tales are so long that they require many evenings to be recited to the end. They are, moreover, distinguished by their peculiar form, and they are not related in ordinary manner, but the Kalmucks recite them in a singing tone.

As to the proverbs of the Kalmucks, it is impossible not to recognise in them the sound judgment of this people, and their acuteness.

"To get a sheep, ask for a camel."

"It is better for a cypress to be broken than to be bent; and for an honest man it is much better to die than for him to degrade himself."

"Ill-got food sticks between the teeth."

"In the desert, of a beetle is made a sheep."

Mode of Life.—Being exclusively occupied in raising cattle, the life of the Kalmuck is nomade. A "*khoton*", which is a commune, more or less numerous, composed of many families united by bonds of relationship, never remains more than two or three weeks in the same place. Transmigration from one place to another is a real feast to the Kalmucks. All their goods, including their tent, *kibitka*, are loaded upon the back of a camel, and covered over with a piece of drapery if the family is in easy circumstances. The women and girls, in holiday dress, as well as the young boys, drive the flocks. The little infants are placed in panniers, which are attached to the sides of the loaded camels, and the mother who is suckling is mounted on the top with her infant. The men on horseback take the lead, and conduct the caravan. The march, which sometimes lasts many days, does not tire the Kalmucks; and they often divert themselves with songs and stories.

Behold them at last arrived at a spot which affords more abundant pasturage. They make a halt, unload the camels, and set to work to erect the tents, which does not require much time. At the end of half an hour, the framework of the *kibitka* is put up. It has the form of a truncated tunnel reversed, resting by its base upon a cylindrical support, which has the same circumference. The *kibitka* is covered outside by a felt cloth, and inside with reed mats. At one end there is an opening, into which is fitted a wooden frame for the door. This door, being open all day, allows the air and light to enter the interior of the tent, which also receives a little light from an opening in the centre of the roof. The floor of the tent is covered with a carpet and felts in summer, and with the skins of different animals in winter. The arrangement of the interior is as follows:

rior of a kubitka does not require much pains or time. Opposite the door they put up against the side of the tent a low couch. On the left of this is raised the grand "baran", the most sacred place in the habitation of a Kalmuck. It is upon this that the objects of his religious adoration are deposited, as well as all the treasures of his family. Upon the spot in which this great baran is to be raised, they first spread the coverings and caparisons of the horse equipage and saddles; upon these are placed coffer with clothes: all these being covered over with a drapery, they deposit last of all the trunks in which are kept the *bourkhans*, the Kalmuck's idols. These being withdrawn from the trunks and placed upon the draperies, a sort of altar is raised before the *bourkhans*. It is a little wooden table, upon which they arrange many little dishes of silver and copper, intended to receive offerings, cheese, gruel, and different kinds of incense. Lastly, before this little table they plant in the soil a piece of wood surmounted with a small silver cup. It is in this that the head of the family deposits the first morsel of every dish that is eaten during the common repast.

On the right of the door, opposite to the preceding, the *little baran* is raised. Here they place the largest coffer, upon which are placed the provisions, wine, and the best household utensils. Around this coffer they place the kettles and other cooking vessels.

The entire arrangement of the kubitka, both outside and inside, is the affair of the woman. The husband only charges himself with the construction of the framework, and with some definite corrections which may be necessary. He passes his time in the chase, in pasturing his flocks, or simply doing nothing. All the charge and cares of the household belong to the woman.

Manners and Customs of the Family.—In the family life of the Kalmucks, the marriage of a son or daughter is a principal occasion of rejoicing and of feasts. The choice among the Kalmucks belongs entirely to the parents. Still, there is no constraint upon this point, and, if the son declares that the selection of his parents displeases him, there is no further question about the matter. In considering marriage as the most serious and grave act of life, the Kalmucks never undertake it without the benediction of their "ghélung", priest. As soon as he, after having consulted the constellations under which the affianced were born, declares that there are no obstacles to their marriage, one of the elder relatives, on the part of the boy, repairs to the parents of the girl, and, after having regaled them with *eau-de-vie*, announces the object of his visit. It is rare that a refusal takes place in these cases. The parents having given their consent, may expect the formal demand in marriage. Some days afterwards, the father of the affianced youth, having taken with him a provision of wine, a sheep, a block of tea in the form of a brick, and a roll of paper containing a strap and a piece of fish-glue, accompanied with many friends, who ought to be absolutely married, repairs to the khoton of the betrothed girl. Having arrived in the kubitka, he begins by serving out the wine to all present; then he brings up the sheep, which his friends

kill, and immediately put it into the cauldron to be boiled. The little packet, containing the tea, the strap, and the glue, is presented to the father of the affianced girl. The tea is consumed at once, and the two other objects, which represent the jewels of betrothal, are deposited on the little table before the bourkhans.

The demand in marriage is shortly followed by betrothal, which consists in the youth repairing to the khoton of his intended bride, and offering her presents of dresses and stuffs. This, which takes place without anything particular being said, gives occasion to a fresh banquet. Between the betrothal and the marriage, there sometimes elapses a whole year, or even more. During this long interval, sometimes the youth, sometimes his parents, come from time to time to see the affianced. When she has completed her sixteenth year, the parents of the youth address the ghélung, beseeching him to fix the propitious and happy month and the day for the celebration of the marriage. Afterwards, some days before the date fixed, the whole family of the young man go to the tent of the betrothed. The first day of their arrival passes in doing the honours of reception; the next day the parents of the youth declare to those of the affianced girl their desire that the ceremonies of the marriage should be accomplished, and, at the same time, they endeavour to learn, in an indirect manner, to what sum the expenses on the part of the young man would amount, and what feasts ought to be offered to the most notable guests, to the acquaintances and the parents of the girl. They never speak of dowry, since the woman ordinarily receives everything necessary for house-keeping.

The day of the marriage, the young man, with his assistants, well provided with wine and viands, repairs to his future father-in-law, where they make a great feast. When the feast is concluded, he is invited into the kibitka of his betrothed, where is exposed her entire dowry, which they shortly send to his khoton. Sometimes the entrance to this kibitka is guarded by the companions of the betrothed, armed with sticks, so that the youth often has great difficulty in gaining an entrance. In order to avoid the blows which threaten him, he offers sweetmeats to the guard. When this guard is satisfied, the young man carries away his betrothed from the kibitka, places her behind him upon his saddle, and repairs to the khoton of his parents.

Here there has been early prepared a kibitka to receive the newly married people, and it is before this that the following marriage ceremony is performed. Before the entrance they spread a carpet, and upon this is put a quilt of white felt. Behind the carpet is found the table with the idols, before which is placed, in an offering dish, a shoulder of mutton, as an emblem of riches. The affianced, surrounded with acquaintances and relatives, place themselves before the table of the bourkhans, the ghélung recites many prayers, after which he seats himself upon the carpet, takes the fold which veils the face of the girl, envelopes in it the shoulder of mutton, and presents it to her. The young man takes it in his left hand and his betrothed in the right. Then the ghélung, after having pronounced many more

prayers, raises the two affianced up and recommends them to bow three times to the earth. They execute these motions without relinquishing the shoulder of mutton, which they continue to hold in their hands, and, in making each reverence, they pronounce the following words :

"I incline myself this first time to adore my Lord God, who is my father and my mother."

"I incline myself this second time to adore my Sun, which is the light of my beloved day ; and my Moon, which is the light of my beloved night."

"We swear to love one another, to respect one another mutually, and to partake in common of all the trials and all the joys of our life."

After which, the ghélung having taken an idol from the table and touched the heads of the couple, the principal and essential portion of the ceremony is finished.

The rest is accomplished in the interior of the kibitka. Having entered, the affianced incline themselves three times before the bourkhans, and seat themselves in their places, the youth on the bolster of the bed, and his affianced at the other end. After which, all the acquaintances enter and occupy their places. The ghélung takes the shoulder of mutton, cuts the flesh in pieces, and distributes them to the betrothed and their parents : the viand is consumed instantly ; and the bone is preserved as a sacred thing, as a pledge of the future happiness of the new family.

Having accomplished all this, the ghélung retires, and the party devote themselves to the rejoicings they have been so long expecting, which are prolonged two or three days. Among these entertainments during the marriage feast, an indispensable part is assigned to wrestling, which is an exercise much esteemed among the Kalmucks.

The marriage ceremonies among notable Kalmucks are conducted rather differently ; yet the difference only consists in this. Ordinarily, it is not the youth in person, but one of his nearest relations, who is charged with conducting his betrothed. The young man meets her on the way, and it is at this place that the principal ceremony of the marriage is accomplished. Arrived at the kibitka of her husband, the girl does not descend from the horse until she is taken off in his arms. Afterwards her horse is set free, and passes into the possession of him who first catches it.

In that which concerns the position of the woman in the Kalmuck family, it is much superior in comparison with that which occurs among other people who are on the same level of civilisation as the Kalmucks. The law, consecrated by usage, in making the Kalmuck woman full mistress of the household, determines strictly what ought to be the conduct of the man. The man has not only no right to raise his hand against a woman, but he is obliged, on the contrary, to treat her with respect. Thus, for example, in inviting a woman to dance, he ought to kneel, and carry his hand to his forehead, and afterwards to the knee of his wife. She, on the other hand, in inviting one to dance, has only to incline herself gently, and to touch

his shoulder. A man is not permitted to refuse a dish or a drink which is offered to him by a woman. Also, upon a journey, if he perceives that a woman intends to descend from her horse, he is expected to get off immediately to assist her to descend.

Such are the laws and usages of the Kalmucks with respect to their women; but, at the same time, these laws are not observed very strictly. The Kalmuck treats his wife with consideration only in the presence of other persons. When alone, it often happens that he beats her, not only for some omission or negligence on her part, but, for example, for having carelessly trodden upon the foot, the gun, or the stick of her husband, or even for having caught him with her skirt.

Divorce is equally forbidden by law, but usage gives the husband the right to send his wife back as soon as she displeases him, and that without assuring her the means of subsistence. In case a Kalmuck abandons his wife in an honourable manner, he gives an especial entertainment, to which all her relations are invited. When the repast is ended, he orders a horse out, ready saddled, to carry back his wife to the khoton of her parents.

Besides the cares of the household, the Kalmuck woman is charged with the education of her children. The birth of a child among the Kalmucks does not give occasion to any particular ceremonies. Scarcely has the new-born child come into the world, when it is carried out of the kibitka, and the first object which then presents itself to the eyes—dog, sheep, serpent, or other—yields its name to the infant. Sometimes the ghélung is invited to give it the name which he finds in his book. Besides which, each Kalmuck bears a certain soubriquet; for example, *badma*, flower, *narbo*, jewel, etc.

The Kalmucks do not reckon their age from the time of their birth, but by a peculiar calculation. Thus, the day of the new year (Nov. 24—Dec. 6) being the *general birthday*, they reckon that a child born, if only a few days, before that day of the year is two years old. The Kalmucks trouble themselves very little with the education of their children. As soon as a child begins to walk, he is abandoned to himself, and he habituates himself gradually, by his own experience, to all the privations of a Kalmuck existence. When arrived at the age of eight years, the boy is sent to some ghélung to commence his studies. These consist in learning to read and write and endure for two or three years. The master is paid by means of presents received from the parents at the commencement and at the termination of the course. The girls of the Kalmucks, as well of the poor as of the rich, do not learn to read or to write. A girl having finished her thirteenth, and the boy his fifteenth year, they convoke the near relatives, and invite the ghélungs. After a short prayer before the bourkhans, the boy or girl having attained majority is introduced, and his or her hair clipped on the temples. From this moment they are considered marriageable, and they shortly become betrothed.

The *religion* of the Kalmucks is Lamaic, or Buddhist. The doc-

trine of Buddha, undergoing corruption among the Kalmucks from generation to generation, consists at the present day of a most absurd mixture of credences.

According to their ideas, before the creation of the universe, there existed an enormous abyss, which was thirty millions of kilometres* in depth, and eighty millions in breadth. From the bottom of this abyss there came out golden clouds, which afterwards condensed into a cloud charged with lightning, and then melted into abundant rain, which formed the ocean. This ocean was nearly nine millions of kilometres in length and ten millions in breadth. In time the winds gradually formed a great quantity of froth on the surface of the ocean, and of this froth the continent was formed. In the first place, there appeared the mountain Summer, which is more than three hundred thousand kilometres in height. Upon the top of this gigantic mountain, of which we only see the half, is found a vast plain. The mountain itself has the form of a rock with four flanks. Each side of the mountain has a different colour: silvered on the side of the east, red on the west, blue on the side of the south, and golden on that of the north. Around the Summer are found four great islands, which form the four parts of the world. The isle of the south is that which we inhabit; that of the east is peopled with men who live one hundred and fifty years; the isle of the west, which abounds with cattle, is inhabited by giants; lastly, the isle of the north is peopled by peculiar beings—they each live one thousand years, and the end of their lives is announced to them by an unknown voice. Besides these four principal islands, there are also seven other smaller ones, and as many seas.

The first inhabitants of this world were divine beings, called *Tingheris*. These Tingheris primarily inhabited the seventh heaven, but at one time they lapsed into quarrel and into war one against the other. The good conquered; and the wicked *Apouris* were forced to quit heaven, and they installed themselves upon the summit of Summer. Nevertheless, the contest begun in heaven always continued, and the number of fugitive Tingheris increased so that they occupied all the islands which surrounded the mountain Summer. At the commencement of their terrestrial life, the Tingheris preserved their divine qualities. Thus, for instance, they each lived eighty thousand years, their faces were luminous, they possessed wings wherewith to fly, they went without food, etc. But one day there appeared upon the earth a certain fruit named "shime", which was as sweet and as white as sugar. As soon as men tasted it, they lost all their qualities of perfection; the brilliancy of their faces disappeared, their wings fell off, they felt the need of nourishment, and the duration of their lives sank to 10,000 years only.

As long as men had luminous faces, there was no reason or necessity for the existence of the sun and moon. But, as soon as the shining of their faces was extinguished, obscurity spread over all the earth. Then four benevolent Tingheris, named Wishna, Mandi,

* A kilometre and a little more than half (1.6 kilometres) is equal to an English mile.

Oubba, and Lukan, having taken pity on the human race, and having seized the Mount Summer in their arms, shook it so violently that the ocean of the universe was agitated, in consequence of which there appeared the sun, the moon, and the stars.

The sun, according to the doctrine of the Buddhists, is a globe of crystal, being more than 1000 kilometres in circumference. In its interior there is lodged a luminous Tingheri, whose radiant face spreads light and heat over all the earth. The sun is placed in an enormous plain, all covered with the most splendid flowers. Every twenty-four hours seven aerial horses draw it round Mount Summer. In the morning the rays of the sun fall upon the silver side of Summer, before noon upon the blue side, at noon upon the golden side, and lastly, in the evening its red side is illumined. Afterwards the sun hides himself entirely behind the mountain, in consequence of which darkness and night ensue.

The moon, according to the ideas of the Buddhists, is also a globe of crystal, but filled with water, and it also is inhabited by a luminous Tingheri. The phases of the moon depend on its more or less remoteness from the sun ; and the spots which are perceived on its surface are the shadows of the different marine animals which live in the universal ocean. After having created the sun and the moon, the creative gods held a council, during which "Arakho", the wicked spirit, glided in unperceived, and drank up all the sacred water of the vase which stood before the gods. Indignant at this audacity, they decided to punish Arakho, but for a long time they could not discover where he was. They then interrogated the sun, and the sun gave them an unsatisfactory reply. They then addressed themselves to the moon, and she indicated to them the place in which Arakho was hidden. In revenge for this Arakho had frequent quarrels both with the sun and the moon, and sometimes he fought with them. During these duels there was an eclipse upon the earth.

The stars, likewise, are equally great globes of crystal, inhabited by Tingheris. One only among all the stars—it is the pole star, called the "pile of gold"—is fixed. All the others, to the number of two hundred and twenty-five millions, are transposed by aerial horses from one place to another. The fall of a star signifies the death of a Tingheri, whose soul then descends into the abyss to animate another body.

The change of seasons is produced by a winged dragon. During the whole of winter it is in repose, lying upon the seven seas. In summer it rises up with the vapours, and ascends towards the upper strata of the atmosphere. The Tingheri which rides this dragon excites it from time to time to thunder and to vomit flames. From time to time also this Tingheri himself shoots from heaven fiery and deadly arrows.

As to the past destinies of the human race, the Buddhists teach thus. Men, having tasted the fruit "shime", could not any longer do without nutriment ; and, since the shime could not suffice for them all, they began to feed upon terrestrial honey and some vegetables.

The fear of the want of food has forced every one to think only of himself, and to seek to provide for the future. Indigent people began to envy those who were richer. The discord which arose among men forced them to choose chiefs charged with their well-being. These chiefs abused the confidence placed in them, and, supporting themselves upon their power, changed into despots.

In proportion as iniquities multiplied among men, their longevity decreased more and more, and at length arrived at its present degree.

During this period of continual calamities, many bourkhans, clothed in human form, descended from time to time upon the earth, and preached penitence and correction. There were four of them; and the last of them, named Shakiamouni, is recognised as the founder of Buddhism. He taught his doctrine to sixty nations, each one of which understood it differently, which has occasioned the origin of so many different religions that prevail upon the earth.

As to what concerns the future destinies of the human race, they teach that the stature and the age of men will sink by degrees, and that there will come a time at which human stature will not exceed one "arskine", which is about twenty-eight inches and a half. Then each child will speak immediately after its birth, and the next day it will be capable of undertaking its own management. They will marry at five years of age, and will not live longer than ten years. The human race having arrived at such a state will be the sign that the moment of universal destruction is at hand. Seven years before this cataclysm, the earth will become completely sterile, and the greater part of mankind will die. Afterwards a great number of swords will be cast down from heaven, which will put to death the rest of the survivors, excepting a single just family, which will be hidden in a ravine. After which the earth will be covered with dead bodies and gorged with blood. It will rain a purifying rain, afterwards a fecundating rain; lastly, a third rain will bring all that is indispensable to man. The family which was hidden will then come out from its refuge, and many other virtuous men will be resuscitated to recommence their new life, which will endure eighty thousand years, and to enjoy all the blessings of the earth.

But shortly men, forgetting past misfortunes, will begin again to do evil, and consequently their longevity will be gradually decreased. When human life will not endure more than two thousand years, there will appear upon the earth the bourkhan Maïdari. He will be of high stature, and of dazzling beauty. Men, surprised with his exterior, will ask him by what means he had arrived at such perfection. To which Maïdari will reply, that all this came to him in consequence of his good works, by which they also are capable of gaining the same perfection. The example and the instruction of God reacting upon men, they will be corrected, and they will live anew eighty thousand years. This second change will be followed by fifty-four new ones; and each eighth change will be accompanied by a deluge, all the others by a fire.

The Buddhist doctrines of the soul, of punishments and rewards

which are prepared for every one after death, are equally very strange. The souls of all creatures pass after death into new beings. Each soul prepares itself for this transmigration during its terrestrial life. Dwelling in the human body, the soul never seats itself in one single definite place, but every day changes its seat. Thus, on the first of each month the soul finds itself in the forefinger; the second day it resides in the foot; the third day in the calf of the leg; the fourth in the knee. In this way it ascends every day higher; at the eighth day it finds itself in the loins; the twelfth it passes into the palm of the hand; the fifteenth it spreads through the whole body; the sixteenth it seats itself in the nose; and on the last day of the month it appears in the thumb. Afterwards its migration recommences in the same order. The injury of a part, when the soul is seated in it, is always followed by an inevitable death. After death, the soul passes into one of the six reigns, and animates some other body. These reigns are the following: 1, of good tingheris; 2, of "assouris"; 3, of men; 4, of beasts; 5, of "birides"; and 6, the reign of "taman", or that of eternal pains and sufferings.

The choice of such a reign, or of another, does not depend upon the soul itself, but it is fixed by the judge of the lower regions, who takes into consideration the good works accomplished upon earth. The habitation of the judge of the infernal regions, called "Erlík-Khan", is situated in a subterranean palace, surrounded with sixteen walls of iron. It is there that all the souls of dead men present themselves before him, except those of lamas, which ascend at once towards the much happier dwelling-place of the tingheris. Each soul is escorted by two spirits, the good and the wicked, who, presenting it to Erlík-Khan, place before him white and black stones. If the white stones, which signify good works, exceed the black, then the soul, placed upon a golden throne, ascends to the kingdom of the tingheris. In a contrary case, it descends to be purified in the kingdom of the birides, which is divided into thirty-six sections. The inhabitants of this kingdom remain there five hundred years at least, and every day of these years is equal to one of our months. The souls here undergo pains more or less severe, according to the nature and the degree of their crimes. Thus, cruel chiefs and homicides are condemned to swim without rest in a sea of blood; misers, transfigured into monsters, having a mouth as small as the eye of a needle and a throat as fine as a thread, have nothing but flames upon which to feed and blood to drink. These poor damned continually rove over a desert plain, seeking in vain some nourishment. They sometimes perceive trees full of delicious fruits, but scarcely do they happen to approach them than the trees disappear, and the unfortunates behold themselves again abandoned to their punishment in the midst of the desert.

The punishments practised in the kingdom of Taman are still more terrible. Taman, situated at 200,000 kilometres below the earth, is divided into sixteen sections. In the first, the damned, half dead, are continually cast from knives to knives; and this punishment

endures for five hundred years, of which each day further equals nine millions of years. In the second section, the condemned are continually sawn. In the third, they break them in an iron press, and every time they revive they are bruised again. In the fourth and fifth sections, the condemned are roasted by the fire. In the sixth, they are boiled. In the following, they are frozen to the degree that their skin is covered with blisters, their lips split into shreds, etc. Not only men, but animals also, are condemned to undergo different pains. Thus, some are condemned to bear different burdens; others to run without rest, and to be torn in pieces by ferocious animals.

Just as the punishments of hell are terrible, so also the enjoyments of paradise, prepared for the just, are delicious. The paradise of the Buddhists is divided into five regions, each of which bears the name of one of the principal bourkhans.

The first, kingdom of *Abiddhabati*, is full of trees of silver, with branches of gold, which bear, in the place of fruit, stones the most precious. Streams of living water irrigate this miraculous country, in the midst of which is found a delightful forest, in which the bourkhan Abiddhabati, surrounded by the just, reposes upon a throne, which is supported by a peacock and a lion.

There are others of the just men whose souls inhabit the top of Mount Summer, where the bourkhan *Khourmousta* rules over thirty and three tingheris. The residence of *Khourmousta*, about 20,000 kilometres in circumference, has 170 gates, each guarded by 500 warriors in arms. The royal palaces, situated in the centre of the capital, are surrounded with gardens, in which the miraculous elephant wanders and feeds. The habitation of the happy souls, situated not far from the royal palace, is remarkable for its tree, as miraculous as the elephant. The trunk of this tree rises 800 kilometres above the earth; its branches are covered with leaves, each of which is nearly 40 kilometres in circumference, and the perfumes which are diffused from its flowers are perceived at a distance of about 400 kilometres.

Besides *Khourmousta*, there are also other divinities who dwell in Mount Summer. The number of the gods recognised by the Buddhists is infinite. They are divided into *tingheris*, *bourkhans*, and *raghignes*. The tingheris have existed from the origin of time, and inhabit the seventh heaven. The discords which have happened among them have forced many of them to descend into the inferior celestial regions, and afterwards to the top of Mount Summer. The tingheris are divided into good and wicked. The latter, as more dangerous, are more respected. The duration of the life of the tingheris differs. Each of those who inhabit the summit of Mount Summer will live 3,700 human years. Those who dwell a little lower have to live 500 years only, each day of which is as long as 500 human years. Those, lastly, who dwell in a region still lower will live still less long.

The *Bourkhans* are equally divinities, but of an inferior dignity, to which every man may rise by means of his good works. The Bourkhans sometimes descend upon the earth to preach penitence and amendment. Their number is very considerable. The first rank re-

turn to Buddha, or Shakiamouni, the founder of Buddhism. It is represented under a figure of a man in contemplation, seated upon the mountain Boudalah, in Tibet. Round this mountain are found dispersed rich forests full of fruit trees, and further plains extend covered with fields of rice.

The second rank among the Bourkhans is assigned to "*Maïdari*," who is governor of the future world, as Buddha governs the actual world. *Maïdari* is figured yellow, with a red scarf round his body, and his hands crossed upon the breast.

Among the other Bourkhans the most important are the four following: "*Mantsoshiri*," "*Khourmousta*," "*Erlík-Khan*," and "*Yamandagha*."

Mantsoshiri means eternal yellow. They recognise him to be the father of a thousand other bourkhans, and he is to be the governor of the world after *Maïdari*. They represent him with four hands, one of which holds a golden sword, the second a book of wisdom, and the two others bless the world.

Khourmousta is recognised as the supreme patron of the earth, and is represented under the figure of an old man, or, according to others, under the figure of a little boy, who mounts the elephant, and holds a sword in his right hand. This elephant is called the son of the defender of the earth. He is white, and is 20 kilometres in length. The pasture of this giant is a forest situated round a lake, which is 10,000 kilometres in circumference, and contains water sweet as honey.

When *Khourmousta* is disposed to make a promenade upon his elephant, then upon this last there appear in an instant thirty and three heads, each of which is armed with seven tusks. Upon each tusk there are seven lakes, in each lake seven beautiful virgins, each accompanied by seven attendants, who sound cymbals. *Khourmousta* himself is seated upon the principal head, which is in the midst, and upon the other heads are placed the thirty-three tinheris, his subjects. The cortège is accompanied by five thousand cavaliers, who also mount as many elephants.

Erlík-Khan has his sojourn in the kingdom of the "*birides*." Formerly he reigned in one of the superior worlds, but he was expelled by "*Yamandagha*." *Erlík-Khan* is represented standing upon the back of a furious buffalo. All round his body are suspended the heads of the dead. He holds a sceptre in one hand and a cord in the other.

Yamandagha, the conqueror of *Erlík-Khan*, is the most repulsive and frightful of the bourkhans. They represent him surrounded with flames and having thirty-six arms, which hold weapons, the heads of the dead, and serpents. Sometimes he is represented simply under the figure of a man with glaring eyes, staring teeth, and fire issuing from his mouth. His cincture is composed of a file of human heads, and upon his knees he holds a repulsive woman of a blue colour, who treads under her feet different monsters and men.

Besides the bourkhans who have been named, there is a multitude of others. It is remarkable that they represent them all seated,

crouching upon their feet, and they all have feminine physiognomies.

The "*Raghignes*" are divinities of the female sex, and have power equal to the preceding.

The chiefs of the Buddhist clergy are the *Dalai-Lama* and the *Bogdobatsin*. They both reside in Tibet. Formerly Dalai-Lama exercised the civil and spiritual power in the whole of Tibet. But since 1703, that is, since that country has passed under the power of China, Dalai-Lama has not only lost his civil power, but he has been obliged to divide with Bogdobatsin his spiritual power also. Notwithstanding, Dalai-Lama always exercises an enormous authority. He inhabits the palace which is constructed of stones proceeding from Mount Boudalah (a sacred mountain of Tibet), and contains nine hundred and ninety-nine chambers. At a kilometre and a half from this palace stands the celebrated temple Dshu. Every new year there assembles in this temple the clergy of the whole of Tibet, to the number of seventeen thousand men. They celebrate there day and night divine service for twenty-one days.

All the rest of the clergy is composed of Lamas. To become a lama is not an easy thing. For this, besides the three principal books *Danjour*, *Ganjour*, and *Youme*, it is necessary to read a multitude of others, which embrace many hundred volumes. It is also necessary to be instructed in astronomy, in medicine, and in other sciences; and lastly, which is the most difficult, it is necessary to perform the *vote*, to think upon God every moment, and strictly to execute all the commandments, the number of which surpasses two hundred.

The Social Organisation of the Kalmucks at the commencement of the seventeenth century, that is to say, at the epoch of their arrival in Russia, was purely patriarchal. Many families united by the bonds of relationship formed a *khoton*, of which the most aged was the head, and was called "*Aga*."

Many *Khotons* composed an "*Aimak*," governed by the "*Zaisangh*," the power of whom was hereditary from father to son.

Afterwards many *Aimaks* in their turn formed a commune, and many communes composed an "*Oulouss*," governed by a "*Nohyon*," or chief.

Lastly, a certain number of *Oulouss*, united under the commandment of a "*Taisha*," formed a tribe. The *Taisha*, who had the rank of a prince, governed personally in the principal *Oulouss*; and all the others he ceded to his sons and brothers, who governed there by turns. All the tribes united constituted the entire people, commanded by the *Khan*. After a certain time the dignity of *Khans* and of *Tais* ceased to exist, and there remained only the *Nohyons*.

The actual rule over the Kalmucks belongs to the *Court of Domains*, at Astrakhan. This has under its direct dependence all the *Noyons*, to whom are subordinated the *Zaisanghs* and the heads of the *Khotons*. The *Noyons* have the power of inflicting punishment for crimes.

Formerly there were three kinds of punishment—corporal punishment, fine, and the degradation of the criminal in the face of the

Khoton, or of the entire tribe. Thus, for example, for disobedience to parents, as well as for rudeness or insolence to elders or chiefs, they applied to the offender, first, a certain number of blows with a stick, and then, after having daubed his face with soot, and tied a pan round his neck, they promenaded him through the whole Khoton. This chastisement is called *degradation by means of the hand*, because, to apply it, he who is charged with its execution, takes a handful of soot from the bottom of the pan, and spreads the whole handful over the face of the offender. For a theft they punished the thief by promenading him equally through the khoton by a cord round his neck. Those who met him gave him blows with a rod on his naked body, and some deride him.

The exercise of justice has three degrees: the first, which was practised in the Khoton, had a family character. The second consisted in a veritable tribunal, named "*Zurgo*," and was composed of the *Zuïsangs* under the presidency of a *Nohyon*. Lastly, the supreme tribunal, after the number of its members called *Judgment of the Eight*, was composed of the *Nohyons*, under the presidency of the *Khan*. In this supreme tribunal were judged all criminal affairs of every nature. Murder was considered as the gravest of crimes. In the eyes of the *Kalmucks* it was a frightful sin, and absolutely unpardonable. For murder committed for the first time, the offender paid a fine, judicially decreed to the parents of the person killed, in the manner of a retribution. Besides which, he was obliged to renounce every kind of enjoyment during a certain time, to carry a red scarf round his shoulders, and to do penance during some time near a "*Khouroul*," or temple. For a second murder, the fine and the penitence were heavier, and further, the criminal was marked on the face. Lastly, he who had committed a homicide for the third time, was marked on both sides of the face, and expelled for ever from the midst of the people. In case the condemned had not the means of paying the fine, he was surrendered in person to the disposal of the relations of his victim, who had the full power to employ him in any kind of labour, as well as to sell him, or to exchange him for a flock of sheep.

In the case in which there was no confession on the part of the accused, or of failure of sufficient proof to establish the crime, the tribunal had recourse to the *oath of justification*. The most important form of such an oath was the "*Shakhan*," which has not existed for some time. To accomplish this appeal, the accused, who was submitted to the *Shakhan*, might choose an adversary, who was generally reckoned an honest man. For the accomplishment of this act, they prepared a *kibitka*, in which, upon an elevation, a *bourkhan* was exposed, before which they lit a perfumed taper. On the two sides of the *bourkhan*, they raised the images of punishing beings, under which were arranged the *Ghelungs*, with their musical instruments, employed in divine service. Upon the floor of the *kibitka* they spread the skin of a cow, quite black, recently skinned, and moistened with the blood of the immolated beast. Above, and to the right of the door,

inside the kибitka, they suspended the head of the same cow. Its eyes were opened wide, the tongue drawn out and turned to one side. On the left of the door they suspended a human skull, and below this last they placed a loaded gun with its lock tied up. Outside the kибitka, on the two sides of the door, were placed the judges, the accusers, and the accused.

All these preparations being made, the person chosen by the accused for an adversary was first obliged to persuade the parties to be reconciled, in order to avoid the necessity of so great and solemn an oath. If this exhortation had no success, then they proceeded to accomplish the *shakhan*, which took place in the following manner. The accused who has to swear, being undressed to his shirt, placing himself upon the bloody skin of the cow, after making three profound bows, ought to jump over the threshold of the kибitka. Scarcely has he made the first movement to advance, than the Ghe-lungs begin to sound their trumpets, little bells and metallic plates, to blow into shells, etc. These solemn sounds accompany the oath at the table upon which the bourkhan rests, and this music is only interrupted by the slow recitation of prayers. Naturally, all this ceremony must react strongly upon the imagination of the accused; but when the accusation is unjust he is not in the least confused, and comes without fear to the bourkhan; he extinguishes the lighted taper before the idol, after which, inclining himself towards the table, he seizes the heart of the cow with his teeth, which was exposed there upon a dish, and carries it out of the kибitka. Here one of the Ghe-lungs receives this revealing object from him, and passes it to the judges to be inspected. If, on inspection, there are no injuries observed upon the heart, then the accused is acquitted, and the accuser is condemned to a fine fixed upon beforehand.

All this mysterious ceremony would impress the Kalmucks deeply by its solemnity, and inspire them with sentiments of terror. And this so much the more easily, as each detail of this *Shakhan* had a certain symbolical signification. Thus, the black cow was the symbol of death, which ought to recall to the person taking the oath the enormous responsibility to which he exposed himself, if he had taken a false oath. The charged gun, with the lock bound up, signified that the perjured ran the risk of being immediately struck by divine justice. And the head of the cow, monstrously disfigured, ought to recall to him that his soul would be excommunicated from the midst of men, and driven into some frightful and monstrous being. The idol of the bourkhan spoke to him of the presence of the supreme judge, who listened to his oath. The illuminated taper signified the divine light spread abroad by the Creator, and its perfume signified the grace of God, both of which the perjured renounced and deprived himself of voluntarily in extinguishing the taper. Lastly, the heart of the immolated cow signified the innocence of the person swearing, and the purity of his intentions.

Of all this terrible oath there remains at the present day but a very small portion only in use. In doubtful and very grave cases,

the Kalmuck, who has to justify himself by means of the oath, only approaches to the table of the bourkhan, before which he prostrates himself three times to the earth, and, after pronouncing with a loud voice, "I am innocent!" he extinguishes the taper, to express that he renounces the favours of the Creator if he has lied. Such an oath is very serious, and appears to be the only relic which testifies to the ancient *régime* proper to the Kalmucks. At the present day their ancient judgment, as well as the punishments of former times, are abolished, and the Kalmucks are judged according to the common laws of the empire.

As to their actual chiefs—the Nohyons—these have preserved to the present day the same authority in the eyes of the Kalmucks which they formerly possessed. A Nohyon is respected not only by his subordinates, but by all the other Kalmucks. They dare not enter into his kubitka without having first made a sign of reverence, which consists in him who is entering touching with the palm of his hand the door of entrance, and afterwards his own forehead. In withdrawing from the kubitka they march backwards, in order not to turn the back upon the chief. If a Nohyon permits his subordinate to sit in his presence, this person thanks him by carrying his hand to his forehead; afterwards he places himself upon his knees, and resting his two hands there, seats himself lastly upon the soles of his feet. The respect and the attention of the Kalmucks towards their Nohyons manifest themselves also in the numerous presents they are obliged to offer to them on every occasion. If it be the spring that is come, is it the summer which has arrived, is it a new child born to the Nohyon, the Kalmuck does not fail to carry him some tea, mutton, even silver coin, in sign of his congratulation.

The clergy enjoy among the Kalmucks a respect equal, if not superior, to that which they manifest to their Nohyons.

The supreme chief of their clergy is a lama. Up to the year 1800 he was always instituted by the Dalai Lama of Tibet, but now it is the Russian Government which names him. The fixed residence of the Lama is at the distance of a league from Astrakhan, at Bazar Kalmouke, by the shore of the Volga. Every summer the Lama quits his residence to make the tour of the Steppes. The lower clergy are very numerous, and are subdivided into different categories, which differ from one another, not by the degree of power they possess, but by the particular and proper attributes and duties of each category.

All the ghelungs or priests are exempt from taxes, and subsist upon the offerings they receive from the Nohyons, the Zaisanghs, and the people. These offerings consist of cattle, different objects, and money, and are ordinarily carried to the profit of the temple *Kharoul*; but they pass entirely into the hands of the Ghelongs, who have also many other sources of revenue. Thus, for example, they exercise medicine among the Kalmucks, and, notwithstanding their ignorance in this science, they nevertheless enjoy a much greater confidence among the population than any physician appointed by government.

A ghelung being called to a sick person, begins by giving him soup

to drink, pure water, or he prepares the most ordinary medicaments for him; and for nothing but this he frequently deprives the poor Kalmuck of all that he has, under the pretext of the offerings demanded for the bourkhans, the intervention of which is indispensable to procure the cure of the sick. If it is a rich man who becomes ill, then there are many ghelungs who take charge of his treatment. They do not fail to take away all that their client possesses—his treasures, flocks, and last of all his kibitka—and all this under the pretext of offerings for the Khouroul. Notwithstanding all these sacrifices, it ordinarily happens that the sick man dies, leaving all his family in complete poverty.

The principal duty of the ghelungs is limited to the religious practices of their idolatry. This service usually passes in the Khouroul, for which every common kibitka may serve. Their divine service consists in the united ghelungs reciting—to the sounds of little bells, metallic plates, tambours, and gigantic trumpets—fragments of prayers, which they read from their sacred books, for the most part incomprehensible to themselves. A ghelung never voluntarily speaks upon matters relating to his religion, and if any one of his people questions him upon this subject, he never replies, giving for his reason that it is a sin to speak about religion.

Among ghelungs, the Zourkhatches, who are occupied with the composition of the Calendars, enjoy a very distinguished authority. The chronology of the Kalmucks does not consist in reckoning the years setting out from a certain memorable date; but they count by cycles each of twelve years, to which they give a particular name of such and such an animal. The year is composed of thirteen months, each of which also bears the name of an animal. Thus the first month in the year, which corresponds to our December, is called the *tiger* month; the months which follow are those of the *hare*, the *dragon*, the *serpent*, the *horse*, the *goat*, the *ape*, the *fowl*, the *dog*, the *pig*, the *mouse*, and the *cow*. One of the months returns twice, and that is the thirteenth of the year. Each month has thirty days, and the week has seven.

The Ghelongs-Zourkhatches are greatly respected by their *confrères*, on account of their spiritual functions, and they exercise a great influence upon the whole population. It is these who are specially addressed to fix the day propitious to celebrate marriage, or to point out the kind of funeral proper for a person dead. In this last circumstance they conform to the rank, more or less important, of the deceased, or, to speak more correctly, to the greater or smaller number of sheep which the relations offer for the Khouroul. The more liberal the offering, the more distinguished is the sepulture. But since, for example, the relatives of a Zaisangh or of a Noyhon have more means for making rich offerings, their bodies are ordinarily destined to be burned, whilst the corpse of a poor man is simply interred, or even abandoned in the midst of the Steppe, to become the prey of wild animals.

The principal evil arising from this great influence of the ghelungs

over the Kalmuck population is, that it is opposed to every civilising effort ; this is why all the attempts of the government to convert the Kalmucks to Christianity, and to induce them to abandon their nomade life, have hitherto almost entirely failed. Moreover, the nature of the country occupied by the Kalmucks is greatly opposed to their being able to establish themselves in colonies.

A certain traveller very judiciously made this remark, that if it could be proposed to all the academies of Europe, to point out the best means to convert those enormous and sterile deserts, which are completely lost for agriculture, into habitable and productive lands ; they would with difficulty find a more practical solution of this problem than that put in execution by the Kalmucks. But, in fact, with those poor herbs, so thin and so arid, which they find in these enormous wastes, burnt up by the sun, the Kalmucks nourish millions of horses, of cows, of goats, and of camels, and transform these sterile districts into a true and rich staple of Russia. By making a great trade of the wool and hair, of the fat, of the skins, and the pelts, the Kalmucks contribute to furnish illumination and defence against cold to a great portion of the northern provinces of the empire. In this particular the Kalmucks play a very important economical part.

This interesting and full description of the peculiarities of the Russian Kalmucks displays the usual great anthropological phenomenon of *persistence of race character* ; and is, at the same time, an apt commentary upon the dogma of "the wisdom of the East." The picture of priestly medicine is somewhat re-assuring to the Western world. The most elaborate treatise upon the Kalmucks is that of S. P. Pallas, which is contained in his "Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften," St. Petersburg, 1776. Two vols. quarto. This work is illustrated with numerous large plates, exhibiting the life of the Kalmucks.

J. KOPERNICKI.

Description of Remains from the Dayr Mâr Mûsa el Habashi.

By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital (referred to at page 332).

THE five skulls before us belong to two broad divisions, to the first of which appertain skulls 1, 2, 4 ; and to the second one 3 and 5. Only one of these skulls possesses the lower jaw attached.

Skull 1.—This large and powerful brachycephalous skull, supposed by Captain Burton to have belonged to a priest, is remarkable for the characters of extreme height and shortness. It is asymmetrical, there being a slight flattening on the right side. All the sutures are open, with the exception of the lower part of the coronal, and there is a large Wormian bone separating the alisphenoid from the parietal on the right side. On the left, the junction between the alisphenoid and parietal has been so short, that the frontal and temporal bones have almost joined. The coronal suture is not very completely denticulated.

The distance between the orbits is large, and the higher portion of the nasal bones is comparatively flattened. The orbits are large, and depressed at their external superciliary borders. The superciliary ridges are undeveloped. The forehead is high; the coronal region dome-shaped; and the superoccipital bone vertical from above the greater semicircular ridge. The mastoids are remarkably small. There is a slight paroccipital on the right side. The temporal squama is small, and the zygomata weak, producing aphænozygism. The malar bones are, however, large and forwardly developed. The nasal spine is large. The palate is shallow and flat. The teeth are absent. The *foramen occipitale* is large and rounded. There is slight exostosis on its anterior border. The form of the forehead and general contour of the skull may be figuratively said to resemble, though it is larger than, the ordinary extreme brachycephalous type found at Pachacamac, in Peru, and amongst the Malays. As with the other skulls of this series, the measurements are appended at the end of the present description.

Skull 2.—Of smaller dimensions than the preceding; this elegant young female, with graceful aquiline nose, repeats most of the characters previously indicated. It is very asymmetrical, the flattening on the left side being proved to have taken place through life, by the existence of a large Wormian bone in the left half of the lambdoid suture. The age of the individual was not more than eighteen. The coronal suture is deeply denticulated, and the alisphenoido-parietal suture is long. The coronal region is carinated transversely along the direction of the suture, in concomitance with the forward compression of the parietal bones by the artificial pressure which has taken place since birth. I regard this to have been entirely due to a "suckling board". This is, however, not the cause of the absolute and natural brachycephaly of the skull, which appears to have existed without any adventitious aid from the mother or nurse. The second molar on both sides is in place. It is normally quadrate, and does not show marks of erosion. The canine and first premolar also are *in situ*; the former being acuminate. The nasal bones are large, arched, and curved. The orbits are small and rounded.

Skull 3.—*Vide infra.*

Skull 4.—Another brachycephalous calvarium from the same locality, in which the facial bones are entirely absent. The present specimen exhibits a greater globate and rounded character of the frontal region than skulls 1 and 2. The coronal suture has been partially obliterated on the right side towards its lower region, and the junction with the alisphenoid bone is not clear. There is a slight *probole*. The occipital foramen is very small. The lambdoid suture is closed and almost obliterated at its apex. The mastoids are large, and the supramastoid ridge is thick.

All the above skulls belong to the same race.

Skull 3.—The resemblances which exist between the skulls of the Phœnician branch of the Shemitic race and the negroids of Abyssinia are so great that the chief point of interest in the description of the present and following skulls will lie in the discussion to which race

they belong. The resemblances which the present specimen exhibits to the large mecistocephalic skull from Palmyra (No. 2 in description above, p. 314) are great, yet comparison with some of the skulls from Eastern Africa will show, according to my opinion, more strongly marked points of likeness. It is in the frontal region where these are most manifest. The present long orthocephalic skull, which is nearly perfect, with whitened condition, manifestly distinguishing it from the other four, and pointing to the existence of a greater lapse of time to which it has been exposed in a clear desiccating atmosphere, is well curved above and behind its retrocedent frontal bone, whence it arches gently along the parietals, across the superoccipital squama to the inion. The occiput thence shelves gently down to the narrow and small foramen magnum. The age of the individual has not been above twenty-three, as shown by the condition of the wisdom teeth. The palate is high and deep, but not, as in the Phœnicians, excessively so. The second molar shows the condition of partial quadricuspidation to which in some controversial remarks* I have called attention, as being rare in the negro races. The first molar is large and eroded. Only the molar series on the left, and the second and first molars and first premolar on the right are in place, the right *dens sapientiæ* not having been developed beyond the alveolus, and the remaining teeth having fallen out since death. All the alveoli are in good condition. The basisphenoid bone is thin and narrow; the glenoid cavities deep and broad, and there is a slight paroccipital process. The mastoids are large; the condyles as large as may be expected from the size of the skull. The *norma verticalis* shows a small narrow forehead with ovoid parietal bones. The coronal suture, which is deeply serrated, but not complexly denticulated, is more closed on the left than on the right side; yet the cranial contour is symmetrical. The zygomatic arches are thin, and the malar prominence, instead of being forward, as in the brachycephalous skulls of the present series, is lateral. The nasal bones are forwardly produced, not arched as in the other series, and there is no deep supra-nasal notch. The superorbital foramen is converted into a notch on both sides. The maxillary is slightly prognathic. Whilst the sutures in the forward part of the skull are tolerably closed, the lambdoid suture, and especially the *additamentum mastoidalis*, are open and highly denticulated. The supraciliaries are slight, and the glabella forwardly produced and prominent. The measurements of the present skull will, perhaps, show best its points of distinction from the Phœnician type.

Skull 5.—The "priest's skull, with skull and mouth stuffed with wool," of Captain Burton (p. 330) exhibits so many points of interesting accordance with skull 3, that it is much to be regretted that its semi-mummified condition, with so much of the integument remaining, precludes exact comparison with it. Nevertheless, as it affords evidence of the manner of interment of the ancient monastic residents at Dayr Mâr Mûsa el Habashi, I do not think it necessary to remove the wool and integument in order to prove my assertion. The lamb-

* *Reader*, March 1864.

doid suture is the only one visible, and shows deep and complex denticulations. The lower jaw is large and powerful, with deep sigmoid notch. The angle is exerted. Some of the cervical vertebræ are attached by the integument; and the base of the skull is in a condition which precludes accurate measurement. The canine teeth are acuminate, the incisors, with one exception, having fallen out. The molar teeth are not much eroded. The palate is broad, not deep or high, but angular. The supracanine notch is deep. The frontal bone has not been as low as in the skull No. 3. The proboscis is large and long. The mentum is mesepicentric, and the mandible shows strong dental prognathism.

The question will be of interest to what race the three brachycephalous skulls appertain. On this subject the opinion of Captain Burton will necessarily be of more value than my own speculation. He says:—"The Már Músa skulls may be Osmanli, or rather Tartars, for the convent has been inhabited during the last century."

We, therefore, have two entirely discordant types, one in which the cranial index ranges from '74 to '76, and which I associate with the Eastern African negroid type, and not with the Shemite of Syria, and the other with a proportionate diameter between '80 and '90, which appears to be identical in cranial conformation with the existing Turkish race. It may be generally said, therefore, that three of the skulls from Dayr Már Músa el Habashi are Turanian and two negroid.

A friend furnishes me with the following notes about St. Moses the Abyssinian:—"Before Mousa was a Mar, he was a robber. There is an abstract of his life written by Palladius early in the fifth century. It does not at all follow that because the skulls were found within the precincts of the monastery that they were, therefore, priests' skulls; for in the east, in the large monasteries, containing sometimes fifteen hundred monks, there were very often no more than three priests. Mar Moses was ordained very late in life. He was a tremendously muscular Christian, having on one occasion taken four of his former companions on his back to his monastery; in the 'Historia Lansiaca' he is spoken of as being an Abyssinian."

Table of Measurements, according to Dr. Barnard Davis's System, in Centimètres.

	A. Internal capacity.	B. Circumference.	C. Fronto-occipital arc.	D. Intermastoid arc.	E. Length.	F. Breadth.	G. Height.	H. Length of face.	I. Breadth of face.	J. Prop. of Breadth to Length.	K. Prop. of Height to Length.
Skull 1	50·5	34·5	39·5	16·6	15·1	11·5	..	12·3	·90	·69
Skull 2	49·5	35·0	39·5	17·0	14·4	12·0	..	12·1	·84	·70
Skull 3	53·0	37·5	39·5	16·8	14·0	10·5	..	11·4	·76	·57
Skull 4	52·5	35·0	39·0	16·8	15·0	11·0	..	..	·80	·65
Skull 5 (approximate)	..	50·0	35·5	34·7	17·8	13·3	10·8	12·5	11·4	·74	·60

DESCRIPTION of REMAINS from HUMS (*Emesa*). By C. CARTER BLAKE, Doct. Sci., F.G.S., Hon. Mem. A. I., Lecturer on Comparative Anatomy, Westminster Hospital (referred to at page 337).

THE brachycephalous skull from the ancient Roman bath at Hums is in two pieces, but sufficient remains to show that it appertained to the short-headed variety of the Romano-Latin stock. In fact, it is indistinguishable from the majority of skulls found in Roman sepulchres and belonging to the unmixed conquering race. The owner was a woman not of advanced age (as shown by the open condition of the sutures), but in which the dental series must have decayed early, as inferred from the absorbed condition of the alveoli. The nose was, in life, fine, delicate, and sharp; the brow ridges prominent; and the orbits large. The forehead is evenly and regularly bombate; and the lambdoid sutures are open, the latter not being completely denticulated, and there being one very small Wormian bone in the left half of the lambdoid. The occiput is strongly marked. The bones of the skull are thin and delicate. It is difficult precisely to compute the proportions of the present specimen; but I estimate the length to have been 166 mm., and the breadth 133 mm., giving a cranial index of .80.

The occurrence of a skull of the Roman type amongst the remains from Hums was an event to be anticipated, and the skull is interesting, as it affords a specimen to compare with the other skulls of Phœnician, Jewish, Negroid, and Tartar origin brought by Captain Burton from Syria.

DESCRIPTION OF PLATE X.

Figs. 1, 2, 3, 4. Views of the Adult Skull (No. 2) from Palmyra.

1. *Norma frontalis*. 2. *Norma occipitalis*. 3. *Norma lateralis*. 4. *Norma verticalis*.

Figs. 5, 6, 7, 8. Views of the Child's Skull (No. 4) from Palmyra.

5. *Norma verticalis*. 6. *Norma lateralis*. 7. *Norma frontalis*. 8. *Norma occipitalis*.

EXPLANATION OF PLATE 14, BY AUGUSTUS W. FRANKS, Esq., F.S.A.

Flakes, etc., from Mount Lebanon; collected in 1864 by M. Louis Lartet.

1. Flint nodule, roughly clipped at one end. Small rude flakes resembling 9 have been struck from it.
- 2-7. Flakes, the edges of which show marks of 'use'; 4 and 7 are 'used' on both edges, the others only on one.
8. Thin flake of violet-tinged flint, lower end broken off; upper end dressed to a semi-circular edge, forming a scraper.
9. Complete flake, one end forming a scraper like to 8.
- 10-12. Unused flakes; 10 and 12 are broken; 10 is an 'angle' or outside flake, i.e., one of the first struck 'from a core.'

ERROR IN NUMBERING A PLATE.

The Plate of Skulls numbered 10 should have been No. 12, and should be stitched at page 314.

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APPENDIX.

*Proceedings of the Anthropological and Ethnological Societies of
London prior to the date of amalgamation.*

ANTHROPOLOGICAL SOCIETY.

DECEMBER 20TH, 1870.

DR. CHARNOCK, VICE-PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following new members were announced :—HENRY WALTER BELLEW, Esq., Peshawar, India; CHAS. CORNISH BROWN, Esq., F.R.G.S., 7, Lausdowne Place, Clifton; and FRANCIS TAGART, Esq., F.R.G.S., Old Sneyd Park, near Bristol, and 34, Craven Hill Gardens, W.

The Rev. W. W. LA BARTE, M.A., of 1, Victoria Place, Brighton, was elected a Local Secretary for Brighton.

The following presents were announced, and thanks of the meeting voted to the donors.

FOR THE LIBRARY.

From the SOCIETY—Bulletin de la Société Impériale des Naturalistes de Moscou. No. 1, 1871.

From the EDITOR—Nature; to date.

From E. J. BELL, Esq.—Catalogue du Magasin de livres anciens et modernes de 1870.

From the INSTITUTE—Proceedings of the Royal Colonial Institute. No. 1.

The following paper was read by the author :—

I.—A DESCRIPTION of some ARCHAIC STRUCTURES in CORNWALL and DEVON. BY A. L. LEWIS, Esq., F.A.S.L.

ON attending the meeting of the British Association at Exeter, (1869), I took advantage of being so far on the road to pay a visit to some of the megalithic and other remains in the southern extremity of Britain, and I have ventured to bring a short description of those I visited before your notice—not because I have any new facts to mention concerning them, but because it is well to multiply authentic descriptions of these monuments, which are so frequently being destroyed, and because it occurred to me that, though many Fellows of this Society are far better acquainted than myself with that part of the country, there are probably some who have not hitherto given much attention to the remarkable remains of which it contains so many.

Before considering the antiquities of Cornwall it may be well to mention some things, which, though not unlike antiquities, are of a very modern date. Thus the archæologist will see in the middle of a

field a stone pillar, which he may take for a small menhir; but he will, if he looks carefully, see these in so many fields, that he will at last make inquiries, and will find that they are placed there for cattle to rub against. As, however, this custom does not prevail in many other parts of Britain, I am inclined to think there may be some lingering relic of superstition about it, the more so as there seemed some little hesitation in replying to inquiries on the subject. Similar posts are sometimes used for fencing off parts of the fields by means of wires running between them. The archæologist will also find in some fields small tumuli, frequently covered with large cabbages, but he must not mistake these for sepulchral barrows, inasmuch as they are merely a kind of manure heap. But perhaps the most dangerous source of error, and one which has, I believe, really misled many able antiquaries, is the fantastic manner in which the native granite frequently crops up through the thin soil.

With these preliminary observations I will proceed to describe the various structures which I visited. My first excursion was from Penzance to DANCE MAEN (St. Buryan's), now better known locally as the "Merry Maidens;" and here I may remark that nearly all the circles in this neighbourhood are called "Merry Maidens," or "Nine Maidens," irrespective of the number of stones really contained in them—the tale running that the stones are maidens petrified in the act of dancing on Sunday. Dance Maen is as nearly a circle as possible, the diameters being seventy-five to seventy-six or seventy-seven feet. It consists of nineteen upright stones, each from three to four feet high, one and a half to three and a half feet wide, and six to eighteen inches thick. The distances between the stones vary from five and a half to eleven feet, but on the east side is a gap of twenty and a half feet, where another stone may possibly have stood, or which may have been left as an entrance. There are two flat stones forty to fifty feet in a southerly direction, and one flat stone about a hundred and eight feet in a north-easterly direction; these stones are about the same size as those composing the circle, and may once have been upright. The positions of these outlying stones correspond as nearly as possible with those described by Col. Forbes Leslie, as connected with a circle in India, and they also correspond with similar stones in other English circles. It is also worthy of note that the present number of stones in the circle, nineteen, is the same as is supposed to have formed the small inner oval at Stonehenge. The small size of the stones, and their situation in the middle of a ploughed field render it wonderfully fortunate that they should have been so long and so perfectly preserved. A short distance to the north or north-east are two stones, about thirteen and sixteen feet high, which are supposed to be the "Pipers" who played to the "Maidens," and were involved in the same doom, but I do not know whether they had really any connection with the circle.

Near Dance Maen, by the side of a road, is also a stone, about four or five feet high, having a hole through it of about six inches diameter.

From Dance Maen I found my way to the LOGAN ROCK, a huge block of granite, weighing, it is said, sixty to seventy tons, which is perched

on the summit of the cliffs by the sea-coast, and rocks slightly when pushed. This was long believed to be a work of the Druids, but is beyond all reasonable doubt a natural phenomenon. The promontory on which it stands (called Treryn Castle) has, however, been cut off by a double if not a treble line of banks and ditches.

On returning to Penzance I turned off to see a circle called the "NINE MAIDENS" at Boscawen-un, but the manner in which it was overgrown with furze, and the gathering darkness prevented my taking measurements of it. It appeared, however, to be about sixty feet in diameter, and to consist of nineteen stones, about the same size as those at Dance Maen (and the same number), with one nearly in the centre, leaning in a north-easterly direction, and about nine feet high, by two and a half by one and a half.

Colonel Forbes Leslie and Dr. Borlase give an engraving of some circles at Botallack, interlacing one another in a most remarkable and inexplicable manner, and my next excursion was in search of these. I am not prepared to say positively that they did not exist when Dr. Borlase wrote, a century ago, or that they do not exist now,* but, although I made careful inquiries, the only thing I could find in the neighbourhood was a circle called the "NINE MAIDENS," situated on the southern side of a hill called Carn Kenidjack. This so-called circle is really an oval, its diameters being about sixty-five and sixty-nine feet. It consists at present of thirteen stones, of which nine are upright and four fallen—about eight more would be required to make the circle complete. The stones are from three to five feet high or long, sixteen inches to two feet nine inches broad, and ten to eighteen inches thick. The granite crops up in patches all round this circle, and indeed quite up to the top of Carn Kenidjack, where it forms a natural wall, several feet high; and in another field, about thirty yards west, are some small stones which appear to form the half of a circle, twelve feet in diameter, with one in the centre, and two in a north-easterly direction, but I believe these are naturally placed.

From this spot I made my way to CHUN QUOIT, a dolmen of the kind which I have in another place† classified as sepulchral. It consists of four upright stones, two of them seven and a half to eight and a half feet long, and one to one and a half feet thick, rising about four feet above the ground outside, and seven feet above the ground inside: they stand about five feet apart, forming the sides of a chamber, one end of which is almost entirely closed by another stone, rising about four feet above the ground outside and four feet in width, the other end being partly closed by a stone, which was about a foot too narrow for the purpose, and the sort of narrow doorway thus left was apparently filled up with loose stones, about the size of the granite cubes used for street paving, which have since been thrown down inside the chamber, but one of the large side-stones has slipped to such an extent as to close up this entrance. This chamber is covered with a slab, about twelve feet across each way and eighteen inches thick.

* W. C. Borlase, Esq., F.S.A., a descendant of Dr. Borlase, tells me that they stood in front of Botallack Manor House, but do not now exist.

† Paper read before the British Association, 1869, Section D.

The thin earth and lumps of granite have been heaped up round it to a height of at least three feet, which has caused some archaeologists to suppose that it was surrounded by a circle of stones, a statement which I think admits of much doubt, although there are two or three small stones standing upright among those which are heaped up round it.

A short distance from Chun Quoit, on the summit of the hill on the side of which it stands, is CHUN CASTLE, a double circumvallation, composed of lumps of granite heaped together, forming walls about five feet high, and now somewhat thicker at the base. The inner circle is about a hundred and forty feet in diameter, and the outer circle is about fifty feet from it. It has no ditch.

Between Chun Castle and Penzance is the MEN-AN-TOL, an upright stone, three feet eight inches high, three feet ten inches wide, and about one foot thick, having a hole about eighteen inches in diameter through it. It faces about north-east and south-west, and has a four-sided upright stone, four feet high and one and a half feet across each side, placed seven and a half feet to the north-east, and a stone, similar, but three-sided, at the same distance to the south-west, against which another similar stone lies flat on the ground. Beyond each of these two equidistant upright stones, but not in the same straight line, stands a small upright stone. This extraordinary construction, which, in its present condition, resembles no other monument that I have ever heard of, has the reputation of curing certain pains, provided the afflicted person crawls through the aperture in the central stone. Notions of a similar kind to this have, according to Col. Forbes Leslie, prevailed from India as far as Ireland and Scotland, and it is probable that such may have been the original object of this peculiar monument. Some, no doubt, would connect it with phallism, and I am not prepared to say that they would be altogether wrong.

LANYON QUOIT stands a short distance below the Men-an-Tol, and appears to be a dolmen of the kind which I have denominated sacrificial, being neither closed up in itself, nor banked round with stones or earth, nor suitable in any way for receiving interments. It now consists of three upright stones, each about four feet ten inches high, three to four and a half feet wide, and one foot thick, supporting a flat stone about eighteen feet long, nine feet wide, and one and a half feet thick.* On the western side is a flat stone, broken in two, which was once another support. On the north side is a stone which may have lain flat and served as an altar, for it must be borne in mind that I do not imagine the cap-stone of the dolmens I term sacrificial to have been used as the altar. This structure was blown over during a violent storm in the autumn of 1815, but has been set up again.†

There are in the country round Penzance many other remains fully as interesting as those which I have attempted to describe, but the

* The measurements given are in all cases the extreme measurements, the stones being almost always more or less irregular in shape and size.

† Dr. Borlase represents it as about seven feet high; but his descendant, Mr. Borlase, suggests, as I think with great probability, that the supporters may have been shortened when it was restored.

time at my disposal did not permit me to visit them. My next excursion was to CARNBRAE HILL, near Redruth, a spot abounding in remarkable natural formations of granite, amongst which Dr. Borlase found numerous Druidic remains, but where I, notwithstanding much searching and inquiry, found nothing of the kind, though of course such may have existed a century ago, when Borlase wrote.

Near Liskeard, which was my next point of departure, in the parish of St. Cleer, is the TREVETHAS STONE, another dolmen, which formed a closed chamber, into which entrance, however, is practicable (or was before the supporting stone at the back was thrown down) by a hole in the front supporter, three feet high and two feet wide. This dolmen stands on (not in) a mound three feet high, and consists of seven supporting stones, one behind (fallen), two at each side, one in front, the largest of all, and another in front, which, as it does not seem to bear any of the weight of the capstone, may only have been placed there to make up the mystic number, seven. These supporters, of which the highest are in front, causing the capstone to slope like the roof of a house, are from five to nine and a half feet high from the mound on which they stand, from three to six feet wide, and ten to eighteen inches thick. The capstone is about sixteen and a half feet long, eleven and a half broad, and one foot thick, and has a hole about six inches in diameter at the front end, at a height of about fifteen feet from the ground. The front of the chamber faces between south and east. Closed dolmens standing on mounds, and believed to have been used sepulchrally, are described as existing in Southern France by M. Cartailhac; whether this dolmen was sepulchral or not I am not able to say positively.

In the same parish (St. Cleer) are the circles called "The HURLERS," from a notion that they are the remains of persons who were petrified for "hurling," or playing ball on Sunday. Owing to the extent of ground (about five hundred feet) which they cover, I was not able to take complete measurements of them, but they appear to be three ovals, rather than circles, strung as it were on a line running in a north-easterly direction (the same direction in which the outlying stones are found in so many other circles). The most northerly oval is, as nearly as I can tell, a hundred to a hundred and fourteen feet in diameter, and now consists of six upright and seven fallen stones, none of which are six feet high. The centre oval, if it were complete, would be about eighty feet from this one, and its diameters would be about a hundred and twenty-five and a hundred and thirty-five feet; it now consists of ten upright stones and two fallen ones, beside some stumps or fragments in the inside of the oval; these stones are from three to six feet high, and of proportionate breadth and thickness. The southernmost oval is about seventy-five feet from this one, and is about one hundred feet in diameter; it has now two upright stones and six fallen, which are of similar dimensions to the others. About seventy or eighty yards to the west of this southernmost oval are two stones six feet high, in a leaning position—a position mostly observed in the outlying stones connected with circles. All three ovals are now in a very ruinous and incomplete condition. Here again we

have outlying stones in a south-west direction, while the arrangement of three contiguous circles resembles the circles at Stanton Drew in Somersetshire, and some figured by Colonel Forbes Leslie as existing in India.

My last centre of operations was Moreton Hampstead, in Devonshire, from which I visited the "LONGSTONE CIRCLE," on Scorhill Tor, Dartmoor. My measurements of this monument are somewhat imperfect, but, as far as they go, indicate it to be an oval, the diameters of which are respectively a little less and a little more than eighty feet. It now consists of twenty-four upright and six fallen stones, besides two which lie prostrate inside the north side of the oval. The stones stand at distances varying from six inches to ten feet, but mostly about four to six feet from each other, except on the south-east side, where are three gaps, perhaps entrances, each about twenty feet wide, and separated from each other by two groups of upright stones, three in each group. The stones are of all shapes and sizes, from two and a half to eight feet in height, one to four feet in width, and ten inches to three feet in thickness. Here again a small stone is found in a leaning position, seven yards in a north-easterly direction from the circle.

At Drewsteignton, about five miles from this circle, is situated the SPINSTER STONE, a dolmen of the class which I have denominated "sacrificial." It consists of three upright stones supporting a capstone at an elevation of five and a half feet from the ground: the uprights are from four to six feet wide, and one and a half to two and a half feet thick; the upright at the back receives the capstone on half its width only, the other part of the upright rising to a height of seven and a half feet from the ground. The capstone is thirteen and a half feet by nine, and two and a half thick. This structure was blown down in 1862, but restored by the rector of the parish, the Rev. W. Ponsford, whose name therefore deserves commemoration in the records of this Society. On the occasion of its restoration the ground beneath was disturbed, but no traces of an interment were found, and, as the dolmen itself is in no way fitted for a sepulchral chamber, there is every reason to believe that it was erected for some other purpose. Here, as at some other places, the front of the dolmen faces to between south and east.

There are many other interesting remains in this neighbourhood, but the only one I had time to visit was the ancient town now called GRIM'S POUND, which is situated in a sloping valley, between two tors, on the moor, about six miles from Moreton Hampstead. It consists of an irregular oval, enclosed by a wall formed of lumps of granite heaped together to a height (at present) of three or four feet, and a thickness at base of about seventeen feet; but it is probable that this wall may, when erected, have been more compact and higher. To the east and west are entrances about eight feet wide, which were paved for about thirty feet, and probably closed with wooden gates or barriers. There is no ditch. The space enclosed is, as nearly as I could judge, about four hundred feet in diameter, and contains numerous circles of stones about fifteen feet in diameter, which are believed to be the

foundations of huts. These stones are of a very irregular shape, and probably supported conical roofs of wood and thatch, the interstices in the whole structure being stopped with clay or mud. A small streamlet runs through the site, and is said to have been conducted there artificially, but this I had no time to verify. The situation, though commanded by the tors on either side, is well chosen, and though less defensible, is more agreeable than the usual position on the summit of a hill. I do not know whether any excavations have been made on this site, if not, I should think many interesting remains might be obtained from it at a comparatively small cost.

And here, had I the requisite descriptive and poetic faculties, I might appropriately close with a sketch of ancient life in Grimspound. I might picture this now solitary and desolate valley filled with the hum and stir of a busy town—the women carrying water from the brook, weaving rushes and basket-work, or occupied in other domestic offices; the men preparing weapons for the chase or war, or tools for more peaceful occupations; issuing forth to take part in the mystic ceremonies conducted at the neighbouring circle on Scorhill Tor, or at Drewsteignton, or sallying out to the chase, or perchance to war in their formidable chariots, if indeed this settlement were not abandoned before the introduction of those vehicles.

I might even ask, perhaps, whether our boasted “progress” has added so very much after all to the general happiness of the population; for though the lives of our ancestors in Grimspound were probably rude and simple, and their toils unenlivened by meetings of the Anthropological Society, it is also probable that there was amongst them little of that awful grinding misery which destroys our poorer classes, and still less of that intense toil and anxiety which overwhelm our middle, and, to some extent, even our upper classes.

DISCUSSION.

Dr. CHARNOCK thought the Society was greatly indebted to Mr. Lewis for his paper, and especially for the admeasurements of the different monuments. The author considered that the Spinster Stone at Drewsteignton could not have been used for sepulchral purposes, but he admitted that the capstone was at an elevation of five feet and a half, and if so, for what purpose could it have been designed? Certainly neither for sacrificial purposes nor for an altar. With regard to the *Men-an-Tol*, described by Mr. Lewis, and in answer to certain remarks that had been made as to artificial monuments in Cornwall, Dr. Charnock said Polwhele was of opinion that the perforation in the Tolmen in Constantine was natural. The term *Tolmen* meant “stone with a hole,” but this word must not be confounded with *Dolmen*, which signifies “table stone” (*taul-mean*). It had been stated that the terms *Merry Maidens*, *Nine Maidens*, and *Dance-Maen* had been used indifferently to denote certain stone circles in Cornwall. It might be questionable whether the two former terms and also that of the *Hurlers* were English appellations, or simply corruptions from the Cornish. The letter *d* was commonly found as an interpolator; thus *puddle* was a corruption of *pool*. But this was still more common in

the Cornish dialect ; thus, *pen, fen, ben*, became *pedn, fedn, bedn* ; and *ton, todyn*. Now *mere-mynn* would signify "the great stones." *Nine maidens* might have the same meaning in Celtic (*an-ain mynn*) ; but it probably meant "the old stones" (*an-hên mynn*). This was corroborated by the term *Dance maen*, in Cornish, *dawns-men*. By-the-bye, this term did not mean "dance stones," but the "stone dance," and was so called, according to Polwhele (quoting Mayle), from being placed so as to make an area for dancing. Then again, with regard to the *Hurlers*, it was possible that the first part of the name had been dropped, and if so it would mean the "stones upon or near the water" (*mynn uar-lhyr*) ; and this derivation is confirmed by the fact that the Hurlers are situated in the parish of St. Clear, a little north of Liskeard, which is near the Looe river. Dr. Charnock fully agreed with Mr. Lewis's remarks on so-called progress.

Mr. QUARITCH was convinced that the apparently English names of the Celtic monuments of Cornwall can be explained only in Celtic. He gave an account of the Cornish literature, which is very trifling, consisting only of two MSS. at Oxford, and two miracle plays, which were published for the first time at the beginning of this century. These have been re-edited by Mr. Norris, who has also compiled a Cornish grammar, and published a complete Cornish literature in two volumes octavo. Borlase, besides his published researches, left a large collection of MSS., which came into the hands of the St. Aubyn family, with whom they still remain.

Dr. CARTER BLAKE corroborated the opinion of Dr. King that some of the circles may have been used to enclose game. Many, however, of these circles were too large, and others too small for this purpose. The ancient Peruvians, however, admittedly used such circles for these purposes.

Mr. DENDY, when exploring the Scilly Islands was much struck with the illusions people might fall into as to the natural or artificial production of objects to be met with. A variety of granite blocks are heaped on each other, and the uppermost stone often takes the human appearance. This is especially observable of a stone situated about a dozen miles from the Cheese-wring, which is a perfect model of the Sphinx. The Cheese-wring itself has much the appearance of the great head of the "young Memnon."

Mr. WAKE thought that the use of the *Men-an-Tol* was connected with the notion of the "new-birth," which was so prevalent among the peoples of antiquity. This was the central idea of the ancient mysteries. The Brahmins are called the "twice-born," and the custom of passing through the hole, apparently associated with the *Men-an-Tol*, is still practised among the tribes on the north-western frontier of India. The use of the stone circles may, perhaps, be judged of by the practice of the South-Sea Islanders, some of whom, according to Lamont, have stone circles. These are called *mara*, and they are the sacred places of the tribes, where their superstitious ceremonies take place, and their chiefs are buried. The Marquesan *mara* answers well to the Kafir *isibaya*, which is used for similar purposes.

Dr. KING and Mr. CHARLESWORTH also joined in the Discussion.

Mr. LEWIS, in reply, agreed with Mr. Charlesworth, that Dance-maen would be a very extraordinary kind of game trap, the spaces between the stones varying from five to twenty feet; nor did he think with Dr. Dendy that the structure had been materially interfered with since its erection. A mere circular arrangement of stones might be set up for many purposes, but the peculiar features of the circles he had mentioned were the outlying stones, which were clearly set up for a definite purpose, and which marked their affinity with the Indian circles. He thought the frequent oval form of the so-called circles had reference to the egg symbol, which might also be connected with Phallism. Replying to Dr. Charnock, he said he did not think that the capstones of the dolmens were used as altars, but that altars were placed in front of some of the dolmens. Stones suitable for this purpose still existed at Lanyon and at Drewsteignton, and three stones arranged like the supporters of some of the dolmens, but without a capstone, were found in connection with some of the sacrificial circles.

The following paper was then read:—

II.—*SOME OBJECTIONS to the THEORY of NATURAL SELECTION, as explained by Mr. A. R. WALLACE.* By HENRY MUIRHEAD, Esq., M.D.

I HAVE been much pleased and edified by the perusal of Mr. A. R. Wallace's *Contributions to the Theory of Natural Selection*, but I have not been altogether satisfied with some of the conclusions. I have therefore noted down some of my objections, with other observations, chiefly with a design to learn whether some of my views are new or true, and what may be said against them.

At page 315 Mr. Wallace says, "Man, by the mere capacity of clothing himself and making weapons and tools, has taken away from Nature the power of slowly but permanently changing the external form and structure in accordance with the external world, and which she exercises over all other animals." Man by his intellect has been enabled more than any other animal actively to modify surrounding agencies, instead of somewhat passively permitting these to modify him. If a man could modify all his surroundings to his will, he could live for ever. Still each individual plant or animal must possess this power to some extent, else it ceases to live. Again, at page 348 he says, "Two characters can hardly be wider apart than the size and development of man's brain, and distribution of hair on the surface of his body, yet they both lead to the same conclusion, that some other power than natural selection has been engaged in his production." Why there should have been more interference with these than with the size and hairiness of a mouse's tail I cannot conceive. If we cannot imagine the Universe without a Deity, we cannot logically conceive any part thereof without Him. He must interpenetrate every atom if He be omnipresent, and be aware of every atom's every movement if He be omniscient.

Mr. Wallace, at page 343, says, "Comparing the savage with the civilised man above him, and the brutes below him, we are alike

driven to the conclusion that in his large and well-developed brain he possesses an organ quite disproportionate to his actual requirements, and in advance, only to be fully utilised as he progresses in civilisation." "The brain of pre-historic and savage man seems to prove the existence of some power distinct from what has guided the development of the lower animals through their ever-varying forms of being."

The notion that millions of big brains have been provided, perhaps for hundreds of thousands of years for beings to whom the large size was useless, nay, detrimental, by reason of weight and magnitude, that said size might in after ages become useful to a remote descendant and his progeny, seems to me ascribing to nature and to nature's God a want of resource and a waste of power which, if displayed by a human architect or engineer, we should certainly call bungling, and would surely be anything but the "survival of the fittest."

Talking of "survival of the fittest," it strikes me that "survival of the fortunate" would have been a more fortunate choice of phrase. In the example which Mr. Wallace furnishes of "an oak dropping millions of acorns", or the innumerable seeds of plants on which small birds feed, or the ova of many fishes, the chances are hundreds to one, I should think, that the fittest will not survive, but only the fortunate. In fact, in the case of seeds and ova, as their devourers must deem the seemingly best the fittest for food, there appears much probability of the survival of the unfittest being the predominant law in these regions of the animal and vegetal kingdoms.

If every individual that comes into being grew up to maturity, and then the struggle for existence commenced, "the survival of the fittest" would have been the appropriate phrase; but we all know that such is not the case. I call those individuals fortunate which, in addition to being endowed with attributes more than ordinarily conducive to safety, manage to escape "the ills that flesh is heir to," and so grow up and leave progeny. But those attributes which conduce to safety are not the causes of variation, but the consequences. In fact, an attribute which turns out of pre-eminent utility to a race tends to depress and extirpate other attributes (variations) that may crop up. This Mr. Wallace has ably shown to be the case with regard to man's intellectual abilities—these interfering with the spread of many other variations in man and other organised beings.

What, then, is the origin of the variations of individuals? From what causes do varieties spring? Simply from dissimilar incidences or combinations of surrounding agencies. No two individuals have identical relationship with the surroundings: more especially in the order or sequence of incidence. And unlike causes are followed by unlike effects. The surroundings or agencies are divisible into two classes, viz., 1st., ancestral or conservative; 2ndly, personal or reforming. The ancestral descending from the progenitors tend to conserve their own endowments in their own family, so that child resembles parent. The personal (or non-ancestral) agencies tend to alter the ancestral endowments, and insert marks of their own influence on the individual. Thus every unit of a race is subjected to the influences inherited from a long line of ancestors, and also the personal influences

of a multitude of surroundings. But mark, no sooner does any personal variation get established, than it too becomes conservative, and strives to perpetuate its like in those proceeding from its possessor. Doubtless myriads of variations cease with the respective individuals personally exhibiting them, in consequence of these individuals dying without issue. And besides this, the influence of many of the personal variations only very slightly affects the progeny, and unless the latter are for several generations subjected to surroundings similar to those causing the mark in the progenitor, the said mark or variation will very likely fade out of view. Again, where the surroundings scarcely alter in a long series of generations, we may expect but little change in the race there abiding, as in some of the lime-forming animals of the slow-changing depths of the ocean.

Assuming, then, that dissimilar incidences and combinations of surrounding agencies are the causes and origin of all variations, then the question comes to be, "What is the origin of the groups named varieties, species, genera, etc.?" Simply that certain families or groups, through contingent circumstances cease to intercross with other families or groups, and that these isolated, *i.e.*, non-intercrossing, groups being acted on generation after generation, each only by its own assemblage of personal and ancestral agencies, diverge from each other more and more in the course of ages; forming first varieties, then still down the stream of time, as the divergence of the groups widens, the dissimilarities of the groups become great enough to form what naturalists term specific differences, and each group is named a species. In after ages we get to genera, orders, etc. Each species is the exponent-product of all the influences of all the individuals that have contributed to it ancestrally, *plus* the product of those non-ancestral agencies which have affected the individuals existing. The same remarks are of course applicable to varieties, and likewise to individuals.

These comments on the origin of species bring me to the subject of human uniformity, that is, the little difference which exists between the various races of mankind compared with the wider diversities exhibited by the species of the classes below him. Mr. Wallace has ably shown that any variation in man's non-mental endowments would have been less conducive to his safety than those resources which his intellect enables him to provide from the inexhaustible store-house of nature around him. So that ability's arbitrament, whose sway is greatest among men, would give the victory (survivorship) to him who, providing against hunger and cold, could best sling a stone or handle a revolver—not to the giant six cubits high, or with a dozen fingers and as many toes. This intellectual ability Mr. Wallace thinks has operated to retain "man's body generically the same for long periods, while other animals have been undergoing modifications in their whole structure to such an amount as to constitute genera and species" (page 328). Now I think there exists one other cause which has operated very powerfully on man, antagonistically to the formation and conservation of species and genera. It is, that man, more than any other animal, intercrosses with all varieties of his kind, recombining divarications. What is human history but a record of races

invading races, and if they do not extirpate the vanquished, intercrossing with them, especially with their females? No other animal does so to the same extent as man. A very little variation among wild animals will serve to keep them apart, and favour divarication. The dog, indeed, is the companion of Man in his wanderings, but he is not permitted by his master to annihilate the varieties of his race; while the rat, which also, unasked, travels with man, but less under his control, is, like man himself, given to extirpate the weaker varieties of his kind.

In conclusion, I beg to recapitulate the two most important points advanced: 1st, Natural selection, if it mean survival of the fittest, is not the predominant law of organic nature. 2ndly, Variations arise from the ever-varying incidences of surrounding agencies; and species, genera, etc., are formed and fostered by groups being isolated—so isolated that the peculiarities from individual variations are prevented from commingling in one common group by intercrossing. This isolation will be mainly geographical as long as the variations formed are only races, but after the differences have become so great as to form species, then biotic considerations will keep the groups from intercrossing, although they may not be kept geographically apart.

DISCUSSION.

Mr. CHARLESWORTH said that his great difficulty was how to reconcile the theory of evolution or natural selection with the permanence of species. As an example, he instanced the warm-blooded water-animals (*Cetacea*), and the fishes, which differed so much in the structure of the vertebral column—and yet both cetaceans and fishes live under the same conditions.

Mr. WAKE did not see much difficulty in the point raised by Mr. Charlesworth. The existence of animals so different as the cetacea and the fishes under similar conditions, showed only that the mammalian type of the former had become fixed before the cetacea took to their abnormal habitat. Their external form may, however, be supposed to have been affected by the action of "natural selection," assimilating them so far to the fishes. The influence of external conditions does not, however, appear to be sufficient of itself to account universally for the changes of animal structure which that hypothesis is intended to explain.

Dr. CARTER BLAKE thought that the reason might be that the fishes passed through lower grades of development than the cetacea, and that the greater amount of ossification of the plano-concave vertebrae in cetacea than in fishes, related to a transference of phosphate of lime in place of the primitive cartilaginous notochord of the earlier vertebrata. But the fossil crocodile called *Streptospondylus*, from the Wealden, exhibited vertebrae, in which the ball was in front and the cup behind. In ordinary crocodiles the cup was in front and the ball behind, thus differing from the type in the exceptional genus above
r Now, *Streptospondylus* and the other crocodiles had prore habitat and mode of life, and on the theory of natural Carter Blake could not see a *vera causa* for the existence of it form.

JANUARY 3RD, 1871.

DR. CHARNOCK, VICE-PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

Captain C. C. POOLE, Assist.-Com., Myansang, Pegu, was elected a Fellow ; and Professor CAV. LUIGI CALORI, of Bologna, Italy, was elected a Corresponding Member.

The following donations were announced, and the thanks of the meeting voted to the donors :

FOR THE LIBRARY.

From the Hon. E. G. SQUIER—Historical Notes on the employment of Negroes in the American Army of the Revolution. By Geo. H. Moore.

From the EDITOR—The Food Journal. January, 1871.

From the ACADEMY—Jaarboek van de Koninklijke Akademie van Wetenschappen gevestigd te Amsterdam, voor 1868.

From the ACADEMY—Verslagen en Mededeelingen de Kon. Akad. van Wetenschappen : Afdeeling Natuurkunde. Tweede reeks ; derde deel.

From the ACADEMY—Processan-verbaal van de Gewoone Vergaderingen. 1869-70.

From the SOCIETY—Mittheilungen der Anthropologischen Gesellschaft in Wien, No. 5.

From the EDITOR—Nature ; to date.

Mr. J. WILKINSON exhibited skulls and weapons, and other works of art, found in an Anglo-Saxon cemetery near Barrington, in Cambridge-shire.

The following paper was read by the author :

III.—*On the MANX of the ISLE OF MAN.* By RICHARD KING, Esq.,
M.D., F.A.S.L.

THE Manx were originally a race of fishermen and smugglers, and they are still to be considered a race of fishermen.

Owing to want of records it is very difficult to procure any written information concerning the original inhabitants. The ancient history of the Isle is involved in impenetrable obscurity, and so mixed up with fiction, that it is impossible to separate the real from the imaginary.

Ethnologists and historians have conjectured, and I believe correctly, that the first possessors of the isle were Celts of the Gaelic branch. Dr. Robert Gordon Latham is of that opinion. He says that in Ireland, in the Highlands of Scotland, and in the Isle of Man, we have Celts of the Gaelic, in Wales and Brittany, Celts of the British branch.

The Manx are tall, robust, frank, hospitable, and, in common with all the Celtic races, excessively superstitious. But few of the Manx have attained any distinguished literary, scientific, or political eminence ; but we must not forget that the Isle produced the late Professor Edward Forbes, one of the greatest naturalists who ever brought his knowledge of the living world to elucidate the physical and organic

changes in the past history of the earth. I much doubt, however, if he was pure Manx.

The Manx, as I have stated, are said to be tall; but what do you call tall? I have taken steps to that end. The Esquimaux were considered to be a dwarfish race until, by a series of measurements, I proved them to be a taller race than the English, the English averaging for the man five feet six inches, and for the woman five feet two inches. The standard of the French is below that of the Belgians, and the Esquimaux is above it. This uncertainty of stature will soon be remedied, as, through the Duke of Argyll, instructions have been sent out to all our colonies throughout the world, to obtain height, and proportion upon a given standard of measurement of all the uncivilised races in the world, as far as they can be obtained.

The pure Manx population has not been ascertained, and I have called the attention of the Registrar-General to this end in taking the next census. The entire population of the island was in

1726	...	...	14,066	1831	...	...	41,758
1757	...	...	19,144	1841	...	...	47,986
1784	...	...	24,924	1851	...	...	52,387
1821	...	...	40,080	1861	...	...	52,252

This table shows that the Isle of Man has undergone great changes in population, attributable to conquest, immigration, and emigration with which the historian has to deal.

Etymologists are at variance respecting the derivation of the name of the island. Some seek its root in the Celtic, others in the Saxon, and others again in the Erse or Scandinavian languages. At various times, and by various authors, the island has been christened *Mona*. In Welsh it is *Monaw*, in Saxon *Mannie*, in Irish *Manand*, in Scandinavian *Mon*, and in Manx *Mannin*. All these forms may be referred to the Sanscrit root, *Mān*.*

The language of the Isle of Man is one of the six Celtic dialects which philologists have shown to belong to the class of Indo-European languages, and which are divided into high and low; the high being the Welsh, Cornish, and Armorican; the low being the Erse division, or the Gaelic, Irish, and Manx. As a spoken language Manx is not unlikely to die out in another generation, being rarely used in conversation except amongst the peasantry. In most of the parish churches twenty-five years ago it was used on three Sundays out of four, but it is now entirely discontinued. But while the Manx are fast losing their language, they unquestionably preserve their individuality as a primitive race.

The native literature consists of a grand historical ballad of the beginning of the sixteenth century, the ballads of Illiam Dhone, of Molley Charane, of Thirree fo Snaightly, and ballads on sacred subjects, called Carols or Carvals; political and satirical poems and songs, with translations of various works. A Grammar and a Dictionary were composed nearly a century ago by the Rev. Dr. Kelly. Kelly's dictionary was reprinted for the Manx Society in 1866, under the

* Nelson's Pictorial Guide to the Isle of Man, p. 8.

editorship of the Rev. W. Gill and the Rev. J. T. Clarke. Mr. Quaritch, of Piccadilly, has just produced a reprint of the *Grammar* of that language, which he has been kind enough to present to our library.

The currency of the Isle of Man is now assimilated to that of England. The copper coinage has impressed on the reverse the arms of the island—three armed legs and the motto, *Quocunque jeceris stabit*—Wherever you throw it, it will stand. This device, which was the ancient symbol of Trinacria or Sicily, according to some authorities, was introduced into the Isle of Man by the Normans; according to others it was introduced by Alexander the Third, King of Scotland.*

DISCUSSION.

The CHAIRMAN said that Dr. King was no doubt right in stating that the Keltic element in the Isle of Man was Gaelic, not Kymric. The language of the people was Gaelic. There seemed to be both a Scandinavian and a Saxon element. The name *Tinwald* was derived from the Icelandic, viz. : from *tinga*, "to speak," *valld*, "a hill." The Tinwald is a hill where the people formerly assembled to speak; a division was called a *sheading*, from the Saxon *sceadan* (Ger. *scheiden*), "to divide;" and a judge was called a *deemster*.

The author of the paper traced the name of the Isle of Man to the Sanskrit *mān*, but he did not give the meaning of the Sanskrit word. He (the chairman) thought the derivation rather far-fetched, and he did not think there was any Sanskrit name in Europe nearer than Mount Hæmus. The Sanskrit word *mān* had many meanings. As a verb it signified to adore; as a noun, self-confidence, pride, arrogance, a measuring; and *man* is to think, and mind. A better derivation of the name "*Man*" might be found in the Celtic. Dr. Owen Pughe gave as one of the meanings of *mon*, "an isolated one." He says "the Welsh call the Isle of Anglesea, '*Mon*,' and in order to distinguish it from *Mon Aw*, the Mon of the water or the Isle of Man, it is sometimes called *Mon Fynnydd* or Mon of the Mountains." Hence the *Monapia* of Pliny; the *Monæda* of Ptolemy; the *Menavia* of Orosius and Bede. Cæsar called it *Mona*; but when Tacitus mentions *Mona*, he refers to Anglesea, not to the Isle of Man.

The following paper was then read:—

IV.—On the ANTHROPOLOGY of LANCASHIRE. By JOHN BEDDOE, Esq., M.D., Pres. A.S.L.

LANCASHIRE falls naturally into three or four divisions. Of these the first and most important is the country between the Ribble and Mersey, closely connected with Cheshire geographically and historically. The second is Furness or North Lonsdale, as for some purposes it is very incorrectly styled, which is geographically a part of Cumberland. The third and fourth are South Lonsdale and Amounderness, of which the former naturally connects itself with Westmorland, to which the

* Nelson's *Pictorial Guide to the Isle of Man*.

upper course of the river Lune belongs; while the latter is a plain country, which forms a transition to the first division.

The prehistoric antiquities of Lancashire are rather scanty, and present, I believe, no peculiarities; nor, have they yielded much evidence as to the physical characteristics of the primeval inhabitants. The early and mediæval history of north-western England is remarkably barren as compared with that of the north-eastern district, in spite of the inquiries and lucubrations of Whitaker. There can be little doubt that from the destruction of the British kingdom of Cumbria, down to a recent period, the greater part of it, the plain about Carlisle excepted, was very thinly peopled. The small number of parishes in Lancashire and Westmorland affords strong testimony of the fact, as does the comparative absence of such noble minsters, abbeys, and castles as abound in Yorkshire.

It has been supposed that the Teutonic character of the inhabitants of South Lancashire, or at least of Salford hundred, may date from the occupation of Manchester, during the Roman period, by a cohort of Frisians. Possibly the blood of the Keltic Britons, here as elsewhere, may have been somewhat affected by colonisation of this kind under Roman auspices. But it seems much more probable that the southern part of Lancashire was not really Saxonised until the reign of Ethelfrith of Northumbria, whom we know to have made great conquests in this direction, and who is said by Bede to have extirpated the British inhabitants of extensive districts, and filled their places with Englishmen. Vacant spaces were also gradually occupied, I believe, by the immigration of Mercians from beyond the Mersey. But the northern portions of the country remained British much longer. The fate of Furness probably resembled that of the neighbouring district of Cartmel, whose population was British in the days of King Egfrith, who, as is well known, included in the same grant the lands of Cartmel and the Britons thereon. Lonsdale also was probably in the main British at that period. The occasional revolts of these Britons, and their chastisement by the kings of Northumbria, and by the successors of Egbert, may have rendered the population exceedingly scanty, and thus prepared the way for the remarkable ethnic change of the tenth century, when the Teutonic element, already present, became preponderant, through the settlement of large numbers of Norsemen.

Certain Scandinavians found their way also into South Lancashire, whether by extension of their colony in Wirrall, across the Mersey,* or in connexion with the general settlement of the Danelagh. Thus, a few local Danish names are found, such as Formby and Ormskirk; and in Domesday-book certain Drengs appear as holding lands at Warrington, drengage being a Scandinavian tenure, and the word *dreng* being still in use in Norway, where it is applied to a farm-servant. But the settlement of Furness and of Lonsdale must have been of a piece with that of Cumberland; and I think Ferguson's view of this

* There is a Thingwall in West Derby hundred, as well as Thingwall in Wirrall, each of which may be taken to indicate the existence at one time of an organised Scandinavian community.

is most probable, *i.e.*, that the Norwegians of the Isle of Man, finding Cumbria, from Annandale to Lonsdale inclusive, and from Stainmoor to the sea, half-desert, and open to colonisation, spread over it gradually and more or less peaceably, leaving the less fertile Isle of Man in great part to its original inhabitants, the Kelts, whose physical type continues to predominate there. The Danes of Dublin may also have taken part in this colonisation, at periods such as that of the battle of Clontarf, when Ireland was less open to them than usual.

The local names in Furness, and to some extent in South Lonsdale, corroborate this theory; and the same may be said of the Lonsdale dialect, which has been investigated by Peacock and Atkinson. The Scandinavian element appears to be the strongest, the Saxon or Angle is in some force, as is also the Keltic, which, however, seems to have been partly Gaelic, and not wholly Kymric, as might perhaps have been expected.* On the theory already stated, however, the presence of Gaelic words may be accounted for without any difficulty. Even if we suppose the original Cumbrians to have been purely Kymric, the Norwegian settlers may be well believed to have brought with them a certain proportion of Gaelic thralls from Man, or even from Ireland. In connexion with this point may be mentioned the remains, at the point of Heysham on Morecombe Bay, near Lancaster, or what appears to be the remains of an oratory and burial-place, of early Irish character, indicating probably the site of a settlement of Irish monks, who may have come with the intention of preaching Christianity to the pagan Angles or Norsemen of the district.

The effect of the Norman conquest on the ethnic elements in Lancashire would probably be inconsiderable; though there, as elsewhere, the Anglo-Danish or Anglo-Norse aristocracy may have been somewhat more diminished, by slaughter and emigration, than the commonality, whose blood may have had a larger admixture of the Keltic element.

Since that time no ethnological change worthy of mention has occurred in the northern part of the country. The physical type in that quarter is accordingly pretty distinct. The Norwegian element prevails in it over the Kymro-British; the Anglian is weak, the Gaelic doubtful. As in Cumberland and Westmorland, the stature is tall, averaging probably nearly five feet nine inches; the eyes are usually blue or light grey, the hair of a lightish brown, often inclining to yellow: the combination of hazel eyes with rather light hair is not uncommon. The spade form of face, with cheek-bones rather broad but not prominent, tapering with a regular curve towards the chin, is very prevalent, as it is in Scandinavia. Among three hundred persons, I found six per cent with red hair, twenty-two fair, forty-seven brown, twenty-two dark, and five black; sixty-four had light, thirteen neutral, and twenty-two dark eyes.

The modern history of the southern part of the county has been very diverse from that of the northern. The immense development of the cotton trade has affected the physical and moral character of the population in various ways. The ethnological character of the people

* Peacock and Atkinson.

has been very much obscured by the immigration which has taken place from all parts of Ireland, England, Scotland, and Wales, and even from foreign countries. This has been accompanied, however, by a rather rapid multiplication of the native breed, which still retains the preponderance in many parts of South Lancashire, as may be shown by an examination of the family-names; but which, under the influence of altered conditions of life, has deteriorated much in stature, bulk, and constitutional vigour. Proof of this may be derived from the observations of Thackeray on the growth of factory children and of those otherwise employed, and from the measurements made for me on Yorkshire and Lancashire weavers, by Dr. Ingham of Haworth, and published in vol. iii of the *Memoirs* of the Anthropological Society; also from the low average of stature in Lancashire recruits, and the great number of rejections of recruits for physical defects.

Whether any other change has taken place in the native breed—whether, for example, the operation of natural selection, under a rather sudden change of several of the external circumstances of life, may be altering the skull-form or darkening the hair and irides, is a subject well worthy of investigation by local anthropologists.

The type originally prevalent in South Lancashire, however, is still sufficiently numerous, even in the streets of Manchester and other large towns, to be pretty easily recognised. The men belonging to it are usually of middle stature and strong build, with a tendency to squareness in face and head, the complexion and hair usually rather light, but the eyes almost as often brown or neutral as blue or light grey. I tabulated the colours met with in four hundred and seventy-five persons, of the lower class, observed in the streets of Manchester, excluding Irishmen and foreigners as well as I could. The percentages yielded were:—Red hair, six; fair, sixteen and a half; brown, thirty-nine; dark, thirty-three; black, five;—and of eyes, light, fifty-three; neutral, fifteen; dark, thirty-one.

The CHAIRMAN said, that with regard to the Gaelic element in Lancashire, all the river-names, except the Mersey, are of Keltic origin. The names of some of the towns were Keltic; thus Liverpool was *wholly*, and Everton, Manchester, and Lancaster *partly*, Keltic. The author of the paper seemed to be of opinion that Norwegian settlers in Lancashire might have brought with them some Gaelic thralls from the Isle of Man, or even from Ireland; but there could be no doubt that the earliest Keltic inhabitants of Great Britain were the Galli (at all events the Gaelic was the more ancient of the two principal dialects), and there was no reason why the Galli should not have settled in Lancashire. At all events two of the river-names (*Douglas* and *Alt*) were pure Gaelic.

The discussion upon the two papers read at this Meeting was also sustained by Mr. Quaritch, Mr. David Forbes, Mr. Wake, and Mr. Lewis.

The Auditors of the accounts for 1870 were announced, viz., on behalf of the Council, Mr. F. G. H. Price; on behalf of the Society, Mr. Joseph Kaines.

ANNUAL GENERAL MEETING.

DR. BEDDOE, PRESIDENT, IN THE CHAIR.

JANUARY 17TH, 1871.

THE minutes of the last annual meeting were read and confirmed.

The Treasurer read the Report of the Auditors on the financial state of the Society, and on the motion of Dr. GEORGE HARCOURT, seconded by Mr. JOHN STIRLING, the Report was unanimously adopted.

The Director then read the Report of Council for 1870, as follows:—

Report of the Council of the Anthropological Society of London, for 1870.

Introduction.—At the close of the ninth year of the existence of a Scientific Society, it cannot be expected that the Annual Report of its Council will contain much of great moment besides the record of the work which has been done during the year. This is true, more especially of a Society such as this, which inaugurated a new era in scientific progress, and which consequently was destined to meet with both opposition and opprobrium during the earlier years of its existence. If the Anthropological Society of London had done nothing else, the fact of its having outlived such opposition and established itself as the organised exponent of a recognised science of mankind, is a positive proof of success having attended its labours.

1. *Meetings.*—During the past year, sixteen meetings of the Society have been held. As a rule, these have been very well attended; but it is to be regretted that, owing to the meetings of other Societies being held on the same evening, members who would like to have been present were often prevented.

2. *Papers.*—The following papers have been read before the Society during the past year.

On the Psychical Elements of Religion. By L. Owen Pike, Esq.
The Negro Slaves in Turkey. By Major Frederick Millingen, F.R.G.S.
Aborigines of the Chatham Islands. By Dr. Barnard Davis and Mr. A. E. Welch.

Notes on an Inscribed Rock in Venezuela. By Mr. Ralph Tate.
Polygamy: its Influence in determining the Sex of our Race, and its effect on the Growth of Population. By Dr. James Campbell, M.D.

The Circassian Slaves and the Sultan's Harem. By Major Frederick Millingen, F.R.G.S.

On the Strange Peculiarities observed by a Religious Sect of Muscovites called Scoptsi. By Dr. Isidore Kopernicky, and Dr. J. Barnard Davis, F.R.S.

On Phallic Worship. By Mr. Hodder M. Westropp.

On the Influence of the Phallic Idea in the Religions of Antiquity. By Mr. C. Staniland Wake.

On Mr. Darwin's Hypothesis of Pangenesis as applied to the Faculty of Memory. By Mr. Alfred Sanders.

The Aboriginal Tribes of the Nilgiri Hills. By Major W. Ross King, F.R.G.S.
Race in Music. By Mr. Henry F. Chorley.

The Armenians of Southern India. By Dr. John Shortt.

The Races of Morocco. By Mr. John Stirling, M.A.

Paucity of Aboriginal Monuments in Canada. By Sir Duncan Gibb, Bart., M.D.

Dr.	Cr.
	INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING DECEMBER 31st, 1870.

To Balance, Jany. 1, 1870, brought forward	£ s. d.	126 19 9
To Subscriptions received, 1870:		
{ Secretary	£337 12 0 }	
{ Collector	220 10 0 }	581 14 0
{ Bank	33 12 0 }	
Life Compositions	41 5 7	
To Subscriptions on account of arrears:		
1867	£ 9 12 0 }	
1868	14 12 0 }	80 18 0
1869	56 14 0 }	
To Subscriptions in advance for 1871	8 8 0	
	<hr/>	712 5 7
To Sales of Publications:		
{ Brocs.....	£0 16 1 }	
{ Waitz.....	1 0 5 }	
{ Pouchet....	3 2 5 }	
Vogt	4 1 7 }	11 4 3
Blumenbach 0 10 2 }		
Gastaldi ... 1 13 7 }		
Memoirs, volume iii	32 10 6	
To Office Sales:		
Books	£11 17 0 }	12 7 6
Miscellaneous	0 10 6 }	
	<hr/>	56 2 3
	•	
	<hr/>	£895 7 7
Audited and found correct, this 14th day of January, 1871.		
F. G. H. PRIOR,	} Auditors.	
J. KAINES,	}	

The Irish Celt. By Dr. Henry Hudson.
 Race Elements of the Irish People. By Mr. Kinahan.
 The Kelt of Ireland. By Dr. John Beddoe.
 The People of Marken. By Dr. R. S. Charnock, F.S.A.
 On some Indian Remains from Venezuela. By Mr. A. Ernst, Local Sec.
 A.S.L.
 Observations on the Condition of the Blood Corpuscles in Certain Races.
 By Dr. R. H. Bakewell.
 Suggestions and Reflections respecting the peoples inhabiting the British
 Isles. By Mr. A. L. Lewis.
 Archaic Structures in Cornwall and Devon. By Mr. A. L. Lewis.
 Some Objections to the Theory of Natural Selection, as explained by Mr. A.
 R. Wallace. By Dr. Henry Muirhead.

3. *Fellows*.—The present number of Ordinary Fellows of the Society (exclusive of those whose subscriptions have been in arrear since 1867, but who have not resigned) is 480. During the past year six ordinary fellows have died, and twenty-two resignations have been received. Many of these resignations have been unavoidable, and the Council would point out that every Society must look for the loss of a certain number of its fellows each year from pecuniary and other circumstances, and that the only way to keep up the numbers of a Society is for new fellows to be introduced. During the past year twenty-five new fellows have been elected.

Corresponding Member.—The following Corresponding Member has been elected :

Dr. D. Luboch, of Kaarpen, Holland.

Local Secretaries.—The following gentlemen have been added to the list of Local Secretaries associated with the Society :

Dr. Daniel Earl Burdett, Ontario; Dr. H. Russell, for Wilmington, Delaware; Frank Wilson, for St. Paulo de Loanda, Africa; the Rev. W. W. La Barte, for Brighton.

4. *Library*.—Valuable contributions have been received during the past year from the following persons and public bodies :

Joseph Kaines, Esq.; A. Ramsay, Esq.; Dr. E. T. Ryan Tenison; Lawson Tait, Esq.; Lieut. S. P. Oliver; Dr. G. Gerland; G. Harris, Esq., F.S.A.; Prof. Virchow; M. E. Alglave; Dr. Nicolucci; Prof. Steenstrup; C. Hamilton, Esq.; F. G. H. Price, Esq.; Dr. Kopernicky; MM. Trutat et Cartailhac; Rev. Scott F. Surtees; Dr. Pruner Bey; T. Bendyshe, Esq.; J. F. Collingwood, Esq.; E. Lartet, Esq.; E. R. Lankester, Esq.; Prof. R. Owen, F.R.S.; Dr. A. Garbiglielli; Dr. E. T. Hamy; Dr. Thurnam; Dr. B. Seeman; E. T. Stevens, Esq.; Dr. A. Weisbach; Dr. Donovan; A. Bastian, Esq.; Dr. Charnock; N. Trübner, Esq.; Prof. Ecker; Dr. Thomas Inman; Dr. J. C. Murray; M. S. Pellegrini; Hon. E. G. Squier; Royal Academy of Science, Amsterdam; Bengal Asiatic Society; Royal Society; Royal Geographical Society; Society of Antiquaries; Royal Society of Literature; Ethnological Society of London; Royal United Service Institution; Imperial Academy, St. Petersburg; the Essex Institute, U.S.; Boston Society of Natural History, U.S.; Smithsonian Institute; Imperial Society of Moscow; Vienna Imperial Academy of Science; the India Office; Geological Society, Glasgow; East Indian Association; American Antiquarian Society; Social Science Association; Anthropological Society of Paris; Royal Institution, Palermo; the Government of New Zealand.

Museum.—Additions to the Society's Museum have been made by the following gentlemen :

R. B. N. Walker, Esq.; Dr. Delgado Jugo; A. L. Lewis, Esq.; Rev. J. G. Wood.

The Society's collection of crania now consists of 200 typical specimens, and the Council look forward to the time when anthropological literature will be enriched by the publication of an illustrated catalogue of the collection.

Skulls.—Among the presents received may be noticed particularly,

Two Australian skulls, presented by Mr. A. L. Lewis; two ditto, by Dr. Robet; one Kaffir skull, by Lieut.-Col. Ross King.

6. *Publications.*—The Council congratulate the Society on the issue to the fellows, during the past year, of Vol. iii of the *Memoirs* of the Society. Nos. 28 and 29 of the *Anthropological Review* having been published by the executors of the late Dr. Hunt, the founder of this Society, were also issued to the fellows. The Council thinking it undesirable that the publication of a journal treating especially of the science of mankind should cease, determined to bring out a periodical to take the place of the *Anthropological Review*. The first number of the *Journal of Anthropology*, under the editorship of the President of the Society, Dr. Beddoe; Dr. J. Barnard Davis; Dr. Beigel; the Rev. Dunbar Heath; and Mr. C. Staniland Wake, was accordingly issued to the fellows of the Society in July last, and its publication has been continued quarterly since that date. The Council trust that the establishment of this journal has met with the approval of the fellows. They believe that the *Anthropological Review* had considerable influence among scientific men, both at home and abroad; and they trust that the *Journal of Anthropology* will be equally valued. It is hoped that this publication will become a leading organ on questions of sociology. It should be mentioned that many papers read before the Society which would formerly have been reserved for publication in the *Memoirs* have been inserted in the *Journal of Anthropology*. A pecuniary saving has been effected by its publication as compared with the cost of the copies of the *Anthropological Review* formerly sent to the fellows.

The want of a volume of instructions for the use of Local Secretaries has been so much felt that the publication, during the present year, of an edited translation of the *Instructions* of Dr. Broca, issued by the Paris Anthropological Society, has been determined on by the Council. This work will be generally interesting, and will do much to render popular the study of Anthropology. It may be expected, moreover, to lead to very valuable results in the collection of anthropological data, by the Local Secretaries of the Society abroad, who are anxiously looking for its appearance.

7. *Exchange of Publications.*—The Council have to announce that the publications of the Society are exchanged with those of the following Societies:

Anthropological Societies of Berlin, Vienna, New York.

8. *British Association.*—The result of the meeting of the British Association for the Advancement of Science, held at Liverpool during the past year, so far as it concerns Anthropology, was communicated

to the fellows at a meeting held on the 1st of November last. The Report of the Society's Delegates is published with the proceedings of the Society which appear in the January number of the *Journal of Anthropology*. The Council congratulate the fellows on the permanent recognition of their special science, implied in the election of the President of the Society, Dr. Beddoe, as a member of the Council of the Association, inadequate as such recognition still is. They trust, however, that the day is not far distant when a separate section for the science of mankind will be formed in connection with the British Association.

9. *Prehistoric Archaeology*.—Owing to the war between France and Germany, the Antwerp meeting of the *Congrès International pour le progrès des Sciences Géographiques, &c.*, and the International Congress of Anthropology and Prehistoric Archaeology, which was to have been held this year at Bologna, were postponed. The report of Mr. Carmichael, the delegate of this Society, to the Bologna Congress, has already been presented to the Society, and it is published with the proceedings of the Society which appear in the January number of the *Journal of Anthropology*.

10. *Financial Position*.—The Council are sorry to say that the debt of the Society has not been reduced during the past year. Two reasons have contributed to this result, these being the publication of the third volume of the *Memoirs*, which cost a large sum, and the non-payment of subscriptions. It is the opinion of the Council that a determined effort should be made in the course of the present year to considerably reduce the debt. If £500 could be discharged during that period, the usefulness of the Society would be very greatly increased, and this might probably be effected by setting apart the whole of the arrears as and when received, with a certain proportion of the income for the year, and by sale of a portion of the stock of works published by the Society, if this can be effected without much sacrifice. If this plan cannot be carried out, it should at least be determined that the debt should be paid off within not more than three years from this date, for which purpose, if necessary, a sinking fund might be formed. The financial position of the Society is, however, perfectly sound, as the whole debt is not more than one year's income, and it is amply covered by the assets of the Society. The Council trust that those fellows whose subscriptions are in arrear will pay them up forthwith, and thus enable the debt to be got rid of at an early date. This alone hinders the Society from carrying out fully its original programme by the publication of translations of various works of great scientific value.

11. *House Accommodation*.—The rooms at present tenanted by the Society, may at any time have to be vacated on short notice, and the attention of the Council has been turned to the question of obtaining fresh accommodation. Nothing definite has, however, been done in the matter, as certain schemes originated by the Statistical Society for the bringing of many of the scientific bodies of the metropolis together under one roof is still under consideration by a committee of delegates.

12. *Amalgamation.*—The question of Amalgamation between the Society and the Ethnological Society has again been brought before the Council; and, to show their willingness to entertain any proposals which may be made for carrying out that object on equitable terms and without injury to the interests of Anthropology, they have passed a resolution that three delegates shall be appointed to act with the President of the Ethnological Society, who has received full power for the purpose, from a Special Meeting of that Society, in bringing about Amalgamation.

13. *Conclusion.*—In conclusion the Council, while congratulating the fellows on the position of the Society and the work it has already done, urgently call on them to increase its value, not only by bringing fresh fellows to the Society, but also by contributing papers for discussion. Many important anthropological questions as yet remain almost untouched. The Council would also call the attention of fellows to the desirability of as many of them as are qualified under Section 2 of the amended rules relating to the constitution of the General Committee of the British Association becoming enrolled as permanent members of that committee. It is to be hoped that at the next Meeting of the Association, although the number of delegates it can appoint is now less than formerly, this Society will be well represented, both by the attendance of fellows and the contribution of papers to the Anthropological Section or Department.

The President here appointed as Scrutineers of the ballot, Dr. Maunsell, and Mr. J. W. Jackson.

Sir DUNCAN GIBB moved, and Mr. BENDIR seconded the adoption of the Report of Council. After some remarks from Mr. Hyde Clarke, Colonel Lane Fox, Dr. Richard King, and Mr. Dendy, the motion was put and carried *nem. con.*

On the motion of Mr. KAINES, a vote of thanks was passed to the Editors of the *Journal*.

Mr. JOSEPH KAINES moved, and Dr. RICHARD KING seconded the following resolution—

“That the President for the time being, Mr. Staniland Wake, Rev. Dunbar I. Heath, and Mr. E. W. Brabrook, be delegates to act with Professor Huxley for the Amalgamation of the Anthropological and Ethnological Societies, with the same powers from this Society as Professor Huxley has from his.” Carried unanimously.

The President then read the Annual Address.

ANNIVERSARY ADDRESS. By J. BEDDOE, ESQ., M.D., PRESIDENT.

The Report of the Council, to which you have been listening, has given you an epitome of the history of the Society's year, to which I have no important additions to make. We have lost, I regret to say, several attached members by death, and according to the doctrine of chances this must annually be the case in a Society so numerous as ours. It is more pleasant to dwell on the many interesting evenings on which the Society has met, on the numerous and often valuable papers that have been read to us, and on the general approbation which I believe we may fairly claim to have been bestowed on the

third volume of our *Memoirs*, and on the new *Journal of Anthropology*, of which the third number is now in your hands.

The meeting of the British Association at Liverpool, and its proceedings in section D, are also to be recorded with satisfaction; inasmuch as at Liverpool the wishes of the Anthropologists and Ethnologists were met in a conciliatory spirit, and, I may say, with a cordiality which had not been displayed at Exeter. Under the accomplished presidency of a gentleman who is among the most distinguished fellows of the Anthropological and Ethnological Societies, a separate department was conducted for the discussion of subjects within our limits; and the result was so universally satisfactory that great hopes are entertained that Anthropology will never again have occasion to complain of neglect at the hands of the Council of the Association. And such was the concord within the department, that I felt disposed to say, "O si sic omnia!" and to wish that I could see the members of the two Societies working together in this room also, with equal smoothness and harmony, under the same able and courteous presidency.

I was one of those who, on the decease of Mr. Crawford, urged the consideration of this question of amalgamation on the leaders of both Societies; I regretted what I considered the uncalled-for withdrawal of the Ethnological delegates from the negotiation; and I have ever since continued desirous of union on such terms as should recognise the objects for which this Society was founded, and yield full scope to its action. In this connection I would draw your attention to the most important event which has occurred, since the Ethnological Society of New York dissolved itself, to rise again, phoenix-like, as an Anthropological Society, in the history of fraternities founded for the cultivation of natural science. Nine months ago was founded the great German Society, the first of whose rules contains the following words:—"The German Society for Anthropology, Ethnology, and Prehistoric Archaeology (*Urgeschichte*), which when briefly mentioned (*in kürzeren Anführungen*,) shall bear the designation of the German Anthropological Society." There is no need to trace out the bearing of this regulation upon questions of nomenclature nearer home.

As the all-important bearings of our science become more generally recognised, not only does its cultivation become more popular and more widely diffused, but in various directions its progress becomes more and more perceptible. The central problems of Anthropology still defy our efforts and escape our ken, as some of them may for ever continue to do: but in many directions openings are shewing themselves, glimmerings of light through the dense forest of difficulty and doubt, which may ultimately lead us near to some of them. And in every department, it cannot be too often repeated, there is plenty of work to be done, work too, in many instances, that lies close to our hands; work for the traveller and the student, for the observer and the thinker, for the highway and the closet. Let us take for example a sub-division that has attracted a disproportionate number of able workers. Even first principles in craniology are far from being settled, after all the labour of Lucæ, Vogt and Welcker, Davis and Thurnam, Rutimeyer and His, Retzius, Von Buer, Broca and Pruner

Bey. The very first hint of the possibility of racial differences in the blood-disks was, so far as I am aware, given in a paper read before this Society a few weeks ago.

Other departments there are which shew less promise of immediate result, and which will require lapse of time for their complete development; but whose extent and bearings are daily more clearly visible, and which are always attracting fresh labour. Such are the questions respecting the acclimatisation of man, his degeneration under various influences, and, in short, the agency of media generally upon him. The connection of such subjects with the interests of daily life is becoming more distinct, even in the eyes of the Philistines who call themselves "practical men."

The history of the importation of Ethnology into politics is curious. Sneered at by statesmen and journalists, the doctrine of nationalities has gradually forced itself on their attention and respect as a potent disturbing force for good or evil in all the problems of European politics. Who cared, fifty years ago, whether the peasantry of Galicia were Russniaks or Poles, whether the Transylvanian Saxons or the Wallachs were multiplying or decreasing, or whether the Danish people did really extend to the Eyder? Who out of Germany cared, till the other day, what language was spoken in such and such a canton or parish of Lorraine or Luxemburg? Such things used to be discussed only by little coteries of Ethnologists; but now they demand and receive the attention of statesmen and rulers, of the arbiters of Europe. It has even dawned at length on the minds of our fellow countrymen that Irishmen "are not undeveloped" Anglo-Saxons, "but diverse;" and that though it may be possible to make them good citizens of another pattern, to make them Englishmen transcends our power.

There are still some who affect to make light of the doctrine of nationalities, and especially of its connection with present or possible political boundaries; but it is not sufficient to shew that in many instances, as for example, that of Flanders and Holland, almost complete community of blood is not accompanied by community of feeling. The fact that the quarrels of brethren are apt to be most deep and irreconcilable does not disprove the existence, as a general thing, of brotherly attachment and sympathy; but it is true that nearness of kindred, likeness of blood, is only one of several elements to be taken into account in studying the origin and import, in each several case, of the idea of nationality. Blood may rule the physique, but climate and other media, and linguistic, political and religious history all act, of course, upon the character and sympathies of a people; and as personal identity has been affirmed to consist in the consciousness of personal identity, so it might be argued, not without some appearance of plausibility, that national identity consisted merely in the consciousness of national identity. Nevertheless, blood does usually assert itself in greater or less degree, and questions of race and descent are therefore well worthy the attention of political students. The Alsatian, though he may insist on being considered, called, and treated as a Frenchman, not only speaks and looks, but

works, thinks and behaves like a German. The Irish and the French have had no common history since history began ; their climate, their languages, their fortunes and misfortunes have been diverse ; but we have reason to believe that there is a strong, perhaps prevailing race-element common to the two, not so potent, it may be, in Wexford as in Westmeath, or in Normandy as in Berry, but still almost everywhere present. And, accordingly, who is there among us, who has not been struck with the many Irish traits of character and behaviour that have come out among the French during the searching trials of the present war ?

It is now my duty to resign this chair, which I have occupied by your favour for two years, to a gentleman who has well deserved his election by his long continued, constant and valuable services to the Society. He has not the disadvantages, which, in spite of your indulgence, I have been keenly sensible of, of living so far from town as to be unable regularly or usually to occupy the chair ; and indeed I owe to him my thanks for having, in his capacity of Vice-President, so frequently supplied my involuntary defections. Thanking you all for your invariable courtesy to me during my years of office, I beg leave to vacate the chair in favour of Dr. Charnock.

Mr. J. GOULD AVERY moved, and ^SIR DUNCAN GIBB, Bart., seconded, a vote of thanks to the President for his address, which was carried by acclamation.

The PRESIDENT returned thanks.

Thanks were given to the Auditors on the motion of Sir DUNCAN GIBB, Bart., seconded by Captain BEDFORD PIM, R.N.

Mr. KAINES returned thanks.

The Scrutineers then brought up the Report as follows :—" We declare the following gentlemen duly elected to serve on the Council of the Society for 1871, viz.—*President* : Dr. R. S. Charnock, F.S.A. *Vice-Presidents* : Dr. Barnard Davis, F.R.S. ; Walter C. Dendy, Esq. ; Sir Duncan Gibb, Bart. ; George Harris, Esq. ; Richard King, Esq., M.D. ; Captain Bedford Pim, R.N. *Director* : C. Staniland Wake, Esq. *Treasurer* : Rev. Dunbar I. Heath, M.A. *Council* : J. Gould Avery, Esq. ; John Beddoe, Esq., M.D. ; H. Beigel, Esq., M.D. ; S. E. Bouverie-Pusey, Esq. ; E. W. Brabrook, Esq., F.S.A. ; Captain R. F. Burton ; S. E. Collingwood, Esq. ; C. O. Groom-Napier, Esq. ; Consul T. J. Hutchinson ; George Harcourt, Esq., M.D. ; Thomas Inman, Esq., M.D. ; Joseph Kaines, Esq. ; W. B. Kesteven, Esq. ; A. L. Lewis, Esq. ; Major S. R. I. Owen ; F. G. H. Price, Esq. ; Bernard Quaritch, Esq. ; C. Robert Des Ruffières, Esq. ; John Shortt, Esq., M.D. ; E. Villin, Esq.

Thanks having been voted to the retiring President, Vice-Presidents, and Members of Council, and to the Scrutineers, the meeting separated.

JANUARY 31st, 1871.

DR. CHARNOCK, PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

Dr. KING JOHN CARR, R.A., of Kurkee, Bombay, was elected a Fellow.

The thanks of the meeting were voted for the following presents:

FOR THE LIBRARY.

- From the Society—Journal of the Asiatic Society of Bengal, part i, No. 3; part ii, No. 3. Proceedings, ditto, Nos. 9, 10, 1870.
- From the VIENNA ACADEMY—Jahrbuch der Kaiserlich-Königlichen Geologischen Reichsanstalt, 1870, 22 Bd.; Verhandlungen der k. k. Geologischen Reichsanstalt, No. 6, 1870.
- From the INSTITUTION—Journal of the Royal United Service Institution, vol. xix, No. 61.
- From the AUTHOR—The Woman's Cave, by W. McPherson.
- From DR. J. BARNARD DAVIS—Sopra un Cranio Scafoideo, by Professor C. L. Calori.
- From PROF. STRENGTH—Oversigt over det Kongelige Danske Videnskabsbernes Selskabs Forhandlinger. No. 2, 1870.
- From the EDITOR—Nature; to date.*
- From the AUTHOR—Correspondenz-Blatt der deutschen Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte: by Prof. Semper. Seven numbers.
- From the DIRECTORS—Revue des Cours Scientifiques de la France et de l'Etranger, Nos. 34, 35.
- From B. QUARITCH, Esq.—Mand Grammar, by Rev. J. Kelly, LL.D.; and a General Catalogue of Books.

The following paper was read by the author:

V.—*On Some of the RACIAL ASPECTS of MUSIC.** By JOSEPH KAINES, Esq., F.A.S.L.

IN an interesting paper recently read before the Anthropological Society of London by Mr. H. F. Chorley, attention was directed to the very various character of the national music of different countries, and the illustrations chosen remarkably confirmed this. Of the topics enlarged upon by the eminent musical critic, none was more striking than the fact that the nations of Europe not only excelled in musical expression all the other peoples of the globe, but their music had racial differences of a strongly-marked character. It was made evident that Asia† had no music worthy of the name, her best melodies being

* Read before the Ethnological and Anthropological Department of Section D of the "British Association for the Advancement of Science" at Liverpool, September 16th, 1870.

† Of the music of Western Asia, Mr. Chorley remarks: "The most ancient service music in existence is that of the synagogue; but as far as I have been able to examine it, or form any conjecture, the result is one of confusion and inconsistency. Many of the Hebrew chants are in the most irregular form of recitative, getting little beyond the wildest of wild cries, which, I have ventured to think, owe their existence to accident. . . . The primitive chant is merely an instinctive device to give vocal declamation, variety, and animation, in delivering the spoken prayer or message, and

monotonous repetitions only of two or three notes. Of African* music little or nothing is known, and what little is known is of a very primitive and barbarous character. The music of the nations of the north-west of Europe was shown to be not only most complex, but pervaded by a settled melancholy. The most popular or national airs were cited in proof of this, and it is not a little remarkable that however joyous most of these airs began, they gradually subsided into a minor key, and produced feelings of unutterable sweetness and sadness.† It is certainly not so with the music of the sunny nations of the south of Europe. How is this? Can it be historically accounted for? Have those of the north had painful experiences to which other nations are strangers? Do they inherit traditions of slavery endured hundreds of generations ago? Racially, have they not fared as well as other sections of the genus *Homo*? Are they more introspective and retrospective? Do they yearn more after what is unattainable? Is the melancholy the product of vague feelings, restlessness, irrational hopings, sorrows suppressed and long endured?

A phenomenon so remarkable in connection with such peoples is surely worthy of the attention of anthropologists. If I attempt an explanation of it, it is with diffidence, as there are many in the Anthropological Society who could do the subject far more justice.

Music is said to be a universal language. Is it so? Has it different dialects? And do the people of one dialect understand (or sympathise with) those who speak another? Does Spanish or Italian music find responsive echoes in the hearts of Germans, Swedes, Norwegians, or Russians, or *vice versa*? Is the music of the Southerner, characterised as it is by gossamer lightness and voluptuousness, agreeable to the ear of a Northerner, whose music is imbued with a pleasing sadness? The difference is so radical as to make one almost think not. How has this difference originated and grown up? Has the admixture

rest to the voice of the priest, as well as the ears of the people."—*Journal of Anthropology*, No. II, p. clx.

* Mr. Winwood Reade, in his *Savage Africa*, says:—"I had the fortune to witness a religious dance in her (Moon's) honour. There were two musicians, one of whom beat an instrument called *handja*, constructed on the principle of an harmonicon, a piece of hard wood being beaten with sticks, and the notes issuing from calabashes of different sizes fastened below. (This instrument is found everywhere in Western Africa.) The other was a drum which stood upon a pedestal, its skin made from an elephant's ear. The dull thud of this drum, beaten with the hands, and the harsh rattle of the *handja*, summoned the dancers. They came singing in procession from the forest. Their dance was uncouth; their song a tuneless chaunt; they revolved in a circle, clasping their hands as we do in prayer, with their eyes fixed always on the moon, and sometimes their arms flung wildly towards her."—*Savage Africa*, 2nd edition, p. 148.

† Dr. Carter Blake, who has done me the honour of perusing this paper, remarks here that, "Minor tunes are easier than tunes in major keys. The cries of children and street cries are proofs." It may be so; but a child does not cry in the minor key because to do so is easier than crying in the major key. Equally with the street crier it knows nothing of either major or minor keys. The child feels pain, and it awakens attention to itself by crying out; the street crier utters his burthen for the same end. The fact of pain or deprivation in both cases is expressed in the only natural way—by the minor key.

of the Celtic or Teutonic elements modified in any way the music of the south of Europe? Do branches of the races of Teutons, Solaves, Celt, and Cymry, which have spread over other parts of the globe, exhibit the same fine peculiarity in their music? If they do not, what has probably extinguished it, or prevented its growth? This is a subject which travellers can throw much light upon.

Why should, of all peoples, German, Swedish, English, and Norwegian music only (or chiefly) be pervaded by this sadness? Is there any physical cause to account for it? or is the reason to be sought in marked psychical differences? And what are those differences?

Hardier nations do not exist. They cannot endure anything that is demonstrative. They hide the most terrible of their emotions; and their ordinary aspect is stern and reserved. Like the Spartan boy, they allow their vitals to be gnawed away rather than exhibit weakness. These nations are in the van of civilisation, and there is no spot under heaven on which they have not sowed its seeds. With a fondness for home amounting to a passion, they have nevertheless wandered in every clime and visited every shore. None meet trouble better or bear it with more fortitude. Calamity does not shake nor difficulties dismay them. Mawkishness is intolerable, and the finest sentiment suspect. They hardly know what tears are, and brush them away on the few occasions they do come, furtively and with shame. Why this settled melancholy in their music? Why are "the sweetest songs those which tell of saddest thought"? Why does the "sweet sad music of humanity" find favour with them? Is the climate an efficient cause?

Do dwellers in the north live under atmospheric and under physical conditions depressing to their spirits? To a certain extent perhaps they do. Perhaps the war they wage with their environment is so incessant as to leave small space for unalloyed hilarity and content. They may have so often, to use Bacon's fine expression, "to conquer nature by obeying her," that they breathe under a load and sing with bated breath. With lowering skies; huge rocks; overawing mountains; steep and dangerous passes and crevasses; floods and fjords threatening certain death; the moaning and hungry ocean; the earth hard, bare, and unfruitful; all these phenomena more or less constantly before them; what wonder if nature wears an awful aspect to them? But climate alone will not account for the existence of the temperament referred to, something must be due to race. How much?

Perhaps some one may say that the nations of the north of Europe are more awestruck than other peoples at the contemplation of Life, Death, God, and Immortality; and that these mysteries possess their whole being, saddening and brightening by turns all their thoughts and impressions. Certainly the rapt attention and morbid analysis they give to such subjects render it very likely. Penetrated by the conviction that the world and man are both under the domain of law; that chance ruled nowhere and necessity everywhere; they would bow the head in silence before the inaccessible and speak in tones of irrepressible sadness of the inexorable. The shadow of fate would haunt

their lives ; darkening their brief periods of leisure ; and cause them to indulge in terrible soul questionings. The very acquisition of the power to modify and make subservient to their ends the laws of nature, brings with it profound respect for the unseen forces which everywhere manifest themselves in the world. Constantly would they be learning the measure of their own strength, the might of their own weakness. Their own ignorance would be made more and more painfully apparent at each addition to their knowledge ; humble and reverent their feeling whilst acquiring the merest alphabet of wisdom. And if the knowable awed them, what would not the unknowable do ? What wonder if their fearful veneration, at first wise, ultimately degenerated into superstition ? Surrounded by inexplicable mysteries over which they brood forebodeful, their music would reflect the tone and colouring of their own thoughts. It would be sombre, grave, and suggestive of an infinite sadness. They would perhaps occasionally tremble and shudder before the sublimely solemn tones they evoked, and be almost ready to say with Jean Paul Richter : " Music avants ! thou speakest to me of things I cannot know nor shall ever know."

Man's whence and whither have stirred deeply other races, but the agitation has found other modes of expression than music. It led the Jews to write the divinest of devotional poetry, the Chinese the most practical and common sense of ethics, and the Hindoos the most ingenious, complex, and metaphysical religious system that the world has yet seen. In the Vedas the greatest human intellects have been painfully and laboriously occupied in the attempt to solve what is insoluble. It would seem as if it were reserved for the nations of the north of Europe, that their yearnings after the infinite should chiefly find expression in music ; and that their " huge dumb heap" of hopes, dependencies, joys and sorrows should have vent in melodies of the most exquisite melancholy.

As far as my reading of the biographies of composers extends, I have found that there is this difference in the temperaments of those of the north and south of Europe ; that of the former was retiring and gloomy, while that of the latter was joyous and elastic. Of the one it may be said, " melancholy marked it for her own ;" while of the other cheeriness and brightness marked it everywhere. They had in common life's struggles to bear, with all life's uncertainties, pains and disappointments ; and only those who know what a highly organised and nervous temperament all composers are blessed (or cursed) with, can adequately imagine how keenly these things are felt by them. They bore " the heat and burthen of the day" well. But how differently their spirits rose at the close of the day ! Where in the memoirs of Italian composers will you find such sad pages as in those of Mozart, Beethoven, Mendelssohn (albeit *he* was so frequently joyous), Weber and Schubert ? These men, each in his degree, seemed to have a " heritage of woe," of which the others never dreamed. They were oppressed with a sorrow or hope " nameless, dark, and drear ;" and out of such experiences they have woven melodies which alternately sweeten and sadden the hearts of thousands ; which search " deeper than ever plummet sounded ;" which

gleam of "a light that never yet was upon sea or land ;" and suggest "thoughts that do often lie too deep for tears."

There are some compositions of the great masters of such exquisite pathos and sensibility that they force tears from unwilling eyes, and bring a throng of memories too painful to bear, even for a few moments only. And when one knows how powerfully the composers themselves were affected by playing their own music ; how frequently Beethoven was found with streaming eyes leaning over his own piano ; how Schubert found his voice thick and faltering while singing his own subdued music ; and what wild grief occasionally possessed Mozart while composing his glorious masses ; it is not difficult to define what it was that touched them so nearly and so profoundly.

The Swedish national air "*Trostlose Liebe*" has been pronounced by Mr. Chorley, no mean authority, to be the prettiest of all national airs ; it is certainly the most plaintive. It is in the minor key throughout. Even the dance music of the Norwegian constantly glides from its joyousness into the same key. Joyousness is a plant that does not flourish in the bleak north. It flowers and blossoms perennially in the south because the air is balmy and soft. There the skies are always bright, and beneath man's foot the earth is fruitful though untilled. There nature uses her children kindly and even "prepares a table in the wilderness" for them. How vastly different are the climatal conditions of the north and south of Europe !

Not music only, but the other arts of expression, architecture, and sculpture ; and the mythologies of the north-east of Europe are imbued with the same spirit herein described. For instance, what is Gothic architecture but an aggregate of deep religious aspirations ? The hunger of the heart and the fervent emotions of the soul long to find expression in every arch, roof, and pointed window, of the venerable piles erected by the builders of the middle ages, for builders *then* had souls ; and temples *then* were not hideous accumulations of stones, bricks and mortar, kept in their places by the law of gravitation mainly. Each mason, carpenter, or hodman, employed on the old buildings, felt his work was holy and that it deserved his best and most disinterested services. He felt that he was a privileged man engaged in a great and solemn undertaking. The earnest purpose which animated these builders has died with them ; but their works remain to awe, sadden, charm, beguile, and chasten, the religious feelings of men of all degrees of culture, of all races and times. The Gothic temples are, if I may so speak, petrified harmonies ; enduring monuments of an age when one faith was universal, and when man's moral and intellectual faculties were in strict synthesis. A fine unity pervades them, they are permeated by one spirit. In them there is a reposefulness very rare in our age. But, like dark veins in marble, hope, trust, and sorrow, lie imbedded in them ; and a longing for "wider and divine worlds." I am not aware that the temples of the nations of the south of Europe have, in any the like, or equal, degree, this distinctive peculiarity. If they have, I shall be glad to be informed of it. In such a case it will be necessary to know the order of the architecture, the period of its erection, and by whom it was supposed to be built ; as the Gothic

builders travelled far and wide to inculcate the principles and furnish illustrations of their art.

As far as I have been able to ascertain (but in this particular I shall be glad to be instructed and corrected) the mythologies of the north-west of Europe have a totally distinct character from those of the south. They are not only weird, but hard, gloomy and severe. They are the mental and moral projections of peoples whom nature and nature's laws have not used kindly,—of peoples who feel that life is one long unequal fight with powers without and within, powers which they must conquer or be conquered by. This fact becomes painfully evident to all students of *Thorpe's Mythology of the North of Europe*, *Mallet's Northern Antiquities*, and other works treating of the rise and growth of the superstitions and religions of the north of Europe. Such aids enable one to estimate, with tolerable accuracy, the intellectual and moral attitude of no mean portion of mankind to questions of momentous interest. In these works are pictured, more or less vividly, the hardness and difficulty of the human lot. Everywhere and everywhen man has to endeavour towards an unattainable attitude, to struggle for a something impossible to get. Always the moral is to be silent and to bear uncomplainingly. It is the silent man that finds the treasure, it is the stubbornly heroic man that perseveres to the goal. True, he loses the treasure the first moment that he speaks, or he dies immediately he attains the goal. That is life; such is human destiny; so the unfeeling gods will. These gods, all the while, watch placidly and with unconcern the lives of the good and the bad; impartial, because indifferent to either. The powers of nature are personified as human because so unfriendly in their aspect do they appear to man. They school and discipline him so constantly, repressing here and stimulating there, that he seems to live under the rod. Nature's methods are harsh and summary to the northerner, gentle and forbearing to the southerner, whom she helps in all ways she can. However hard the school, the northerner derives most benefit from it in the long run; but at first their cruelty and relentlessness awe a heart that owns no fealty and bends only to what is stronger than itself. The disease that kills, the lightning that blasts, the thunderbolt that smites, the floods that overwhelm, the cold that bites, the heat that withers—all are enemies, huge, portentous, rhadamanthine, to be placated, appeased, shunned, or endured. Death is the silent land, in its solemn mysteriousness, into which man desires to peer, not from a vague and idle curiosity, but with a reverent and eager inquisition, to see if he can obtain any knowledge, however scant, of those that are loved and lost.

Such, in very brief and imperfect outline, is a sketch of the mythologies of the north-west of Europe. Will anyone, who has studied the mythologies of the south of Europe, say that such mental and moral conditions and phenomena are often paralleled in them? By whom and where?

It is a trite remark that no southern people has produced a Shakespeare;* however that may be, no southerner could have written

* A very good thing too. Shakespeare was, as a comedian, inferior to

"Hamlet." Not only does he want the genius but he wants the melancholy which characterises that play. This is a racial fact of some importance, both psychical and physical. The very words "Past," "Farewell," "Irrevocable," "Irremediable,"* awaken, I imagine, very different sensations in the mind of a southerner to that of a northerner who is oppressed by their intolerable painfulness.

It is interesting to observe what differences there are in ancient Roman, modern Roman, Anglican, and dissenting church music. Each is the natural outcome of widely diverging states of religious consciousness. The music of the early church had both form and colour. It was sonorous, too, like the noble words that generally accompanied it. The ritual was elaborate and impressive, and left on the minds of the worshippers a sense of grandeur and sublimity, not always produced by later music. Those who have heard (and who has not?) some of the ancient Roman hymns and chaunts will remember instances.

The masses of the modern Roman church are exceedingly fine. They stimulate while they overawe the imagination, and bend perforce the rebellious reason. They captivate the ear by their nobleness, sweetness, and beauty. The very words of the catholic service, to those who have ears, have a pathetic history all their own. What generations have repeated them! How countless the hearts that have felt their solemnity! They remain, although the lips that repeated and the hearts that felt, are not. They are laden with the memories of centuries, and sanctified by associations manifold and tender. But I know not if modern Roman sacred music has gained in religiousness on the ancient. I should fancy not. If it were less orchestral would it not be more religious?

Anglican music, like Anglican worship, lacks unity. It is a thing of "shreds and patches." What is of worth in it is borrowed from Catholicism. What it adds to that is frequently very poor. It forms no sequence to the older ritual, and is, indeed, in some respects, opposed to it. All the illogicality of Protestantism comes out in Anglican music. The ear detects it in every protestant service. The litanies, chaunts, hymns and prayers, have little, or nothing in common, they express varying moods, contradictory feelings and convictions.

Dissenting church music is very characteristic. It is obtrusive and noisy and gives in sound what it wants in depth. Occasionally it has sweetness and pathos. Occasionally it comes very nigh the soul. But these are chance moods; it soon relapses itself into its ordinary self-assertion. It is worthy of its hymnology. This last being mostly analytical, the music is thin and poor, and lacks the ripeness and

Molière; as a tragedian, inferior to Racine; as a dramatist, inferior to Lope de Vega. But the southern people have produced the greatest tragedian in the world, Æschylus; and the greatest comedian, Aristophanes. (Dr. C. Blake's note.)

* The Spanish expression *Acabada es*, the Latin *Consummatum est*, conveys a far more magnificent idea than the very poor English, "It is finished." (Dr. C. Blake's note.)

fulness which faith inspires. It is the music of a transitional period, and of a time when men feel that great changes impend in their intellectual and moral beliefs. It is the music of those who long for certainties, and feel they long in vain. It is, also, the music of those in whom ignorance has bred confidence, and a familiarity with divine mysteries which degenerates into unctuous jauntiness.

This, at least, is my feeling, and I have had a wide acquaintance with dissenting sacred music.

In concluding this brief survey of some of the psychical characteristics of the nations of the north-west of Europe, I must not omit to notice the different religious training which the north has had from the south of Europe. Centuries ago, Roman catholicism embraced both. Times have altered. Protestantism broke the spell under which the human intellect was bound, and has enlarged the sphere of man's knowledge only to show him how much there is which he can never know. Catholicism, in engaging to answer all the intellectual and moral needs of man, took from him responsibility, and gave him a restfulness to which Protestantism is a stranger. The change from the old faith to the new (or rather revised) faith, has not been without its effect on music; and the emotional cravings and wild unrest, which characterise the best music of our times, may be largely attributable to this cause.

I have attempted in a very tentative and inexact way to account for a remarkable psychical phenomenon. If my effort should induce an abler person to undertake a better explanation I shall be very grateful to him.

DISCUSSION.

THE PRESIDENT observed that Mr. Kaines had devoted a great part of his paper to the peoples of North-Western Europe. These would probably comprise Scandinavia, Holland, Belgium, France, Great Britain, and Ireland. He (the President) thought that the plaintive character of the music was not common to those nations, but was only found in Scandinavia, Ireland, and Bas-Bretagne. It could scarcely be applicable to England, where there was no national music. Where there was no national poetry there could be no music. The author of the paper asserted that this plaintive character did not exist in any other part of Europe than the north; he (the President) had, however, frequently noticed it both in the south and east of Europe, viz., in Tyrol, Styria, Hungary, Transylvania, and Servia. Mr. Kaines seemed to have mixed up race with climate. There was no doubt that climate had a great effect on the human voice. In Russia were found the lowest bass voices. In France, Picardy produced the best basses; Languedoc, and especially the neighbourhood of Toulouse, the best tenors and counter-tenors; and Franche-Comté and Bourgogne, female voices of the finest quality. The President agreed with the author of the paper that the Italians could not have produced a Shakespeare, but only because they had not yet done so. It did not follow that a nation which had given birth to one of the greatest geniuses of the world (Da Vinci) would never produce a Shakespeare.

The following gentlemen also took part in the discussion which ensued :—Mr. Mackenzie, Dr. Hyde Clarke, Mr. Lewis, Mr. Wake, Captain Brine, R.N., Mr. W. R. Cooper, and Mr. Bernard Quaritch.

The CHAIRMAN announced that this was the last ordinary meeting of the Anthropological Society, an amalgamation with the Ethnological Society having been carried out by the delegates appointed for that purpose by the two societies.

It was also announced that a Special General Meeting of the Society would be held on the 14th of February, at half-past seven o'clock, for the purpose of authorising its Trustees to transfer its funds and effects to the Institute.

SPECIAL GENERAL MEETING.

FEBRUARY 14TH, 1871.

DR. CHARNOCK, PRESIDENT, IN THE CHAIR.

THE Chairman called on the Director to read—

1. The Resolution of the Ethnological Society, giving powers to its President to bring about an amalgamation with the Anthropological Society.

2. The Resolution of the Anthropological Society giving equal powers to four Delegates, to meet the President of the Ethnological Society.

3. The memorandum embodying the terms of union between the Societies, as follows :

“ At a meeting of the Delegates appointed to bring about the amalgamation of the Ethnological and Anthropological Societies of London, held 21st January, 1871. Present, Professor Huxley, on behalf of the E.S.L., with Colonel Lane Fox ; Dr. Charnock, Rev. D. I. Heath, Mr. Wake, and Mr. Brabrook, on behalf of the A.S.L.

“ I. It was stated that the Delegates of the A.S.L. considered that their Society had pledged itself to abide by their decision in all respects, and that should any proceedings be necessary to give it legal sanction, it was an honourable understanding that that should be done without further discussion.

“ II. It was agreed that the name of the united societies should be ‘ The Anthropological Institute of Great Britain and Ireland.’

“ III. Balance sheets of both Societies were produced and examined.

“ IV. Rules for the Institute were agreed to.

“ V. The following were appointed officers of the Institute for the first year :—*President* : Sir John Lubbock, Bart., M.P., F.R.S. *Vice-Presidents* : (from the E.S.L.) Professor Huxley, LL.D., F.R.S. ; Professor Busk, F.R.S. ; John Evans, Esq., F.R.S. ; (from the A.S.L.), R. S. Charnock, Esq., Ph.D., F.S.A. ; J. Barnard Davis, Esq., M.D., F.R.S. ; G. Harris, Esq., F.S.A. *Director* : C. Staniland Wake, Esq. *Treasurer* : J. W. Flower, Esq., F.G.S. *Council* : (from the E.S.L.) H.

G. Bohn, Esq., F.R.G.S., F.L.S.; Col. A. Lane Fox, F.S.A.; Hyde Clarke, Esq.; W. Blackmore, Esq.; W. Boyd Dawkins, Esq., M.A., F.R.S.; R. Dunn, Esq., F.R.C.S.; D. Forbes, Esq., F.R.S.; T. Mc. K. Hughes, Esq., M.A., F.G.S.; Dr. Arch. Campbell; S. E. B. Pusey, Esq., F.R.G.S.; (from the A.S.L.) W. C. Dendy, Esq.; Sir Duncan Gibb, Bart.; R. King, Esq. M.D.; Capt. Bedford Pim, R.N.; Rev. Dunbar I. Heath, M.A.; John Beddoe, Esq., M.D.; George Harcourt Esq., M.D.; Joseph Kaines, Esq.; F. G. H. Price, Esq.; C. Robert des Ruffières, Esq., F.G.S.

"vi. Agreed that the services of Mr. J. F. Collingwood as Secretary, Mr. F. W. Rudler as Sub-Editor, and Mr. H. McKay as Clerk, be continued during the pleasure of the Council.

"vii. The assets and liabilities of each Society to be transferred to the Institute.

"viii. The members of either Society to be members of the Institute.

"ix. Agreed that a Council Meeting of the Institute be summoned for Tuesday, 31st January, at four o'clock.

"x. Agreed that Sir John Lubbock, Mr. Dunbar Heath, and the Treasurer, be the Trustees of the Institute."

(Signed) "T. H. HUXLEY. "RICH. S. CHARNOCK.
"D. I. HEATH.
"C. STANILAND WAKE.
"E. W. BRABROOK."

4. The Circular summoning the meeting.

The following Resolution was then moved by Mr. BRABROOK, and seconded by Mr. KAINES, "That the Trustees of this Society be, and they are hereby authorised and directed to transfer its funds and effects to the Trustees of the Anthropological Institute of Great Britain and Ireland."

The resolution having been put by the Chairman was carried unanimously.

Thanks having been voted to the President and to the Delegates, the Chairman declared the proceedings at an end, and that the Society was now merged in the Anthropological Institute of Great Britain and Ireland.

ETHNOLOGICAL SOCIETY.

NOVEMBER 8TH, 1870.

ARCHIBALD CAMPBELL, Esq., M.D., V.P., IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

THE following new Fellows were announced: THE EARL OF ANTRIM, Christchurch, Oxford; WILLIAM BRAGG, Esq., F.S.A., F.G.S., Shire Hill, Sheffield; H. RIVETT-CARNAC, Esq., Simlah; and JOHN EDWARD LEE, Esq., F.S.A., F.G.S., The Priory, Caerleon.

THE following donations to the Society's library were announced, and the thanks of the meeting voted to the respective donors:

- From H.M. SECRETARY OF STATE FOR INDIA IN COUNCIL—A Catalogue of Maps of the British Possessions in India and other parts of Asia.
- From the AUTHOR—The Origin of Civilisation and the Primitive Condition of Man. By Sir John Lubbock, Bart., M.P., F.E.S., etc.
- From the AUTHOR—A Handbook of Phrenology. By C. Donovan.
- From the AUTHOR—The Celtic Origin of a great part of the Greek and Latin Languages. By Thomas Stratton, M.D.
- From the AUTHOR—Vocabulary of the Woolner District, Adelaide River, Northern Territory. By J. W. Ogilvie Bennett.
- From the AUTHOR—On Insanity in Wiltshire. By John Thurnam, M.D.
- From the AUTHOR—Observations on the Geography and Archaeology of Peru. By E. G. Squier, M.A., F.S.A.
- From the Hon. E. G. SQUIER—Analytical Alphabet for the Mexican and Central American Languages. By C. Herman Berendt, M.D.
- From the AUTHOR—La Création et ses Mystères dévoilés. Par M. Snider; Nouvelle Théorie sur la Formation des Comètes. Par M. Snider; and Les Emanations. Par M. Snider.
- From the AUTHOR—Storia della Casa d'Austria. Per A. Snider-Pellegrini.
- From the AUTHOR—Iconografia di alcuni Oggetti di remota antichità rinvenuti in Italia. Per B. Gastaldi.
- From the SOCIETY—Journal of the Royal Geographical Society, vol. xxxix; and current numbers of Proceedings.
- From the SOCIETY—Transactions of the Royal Society of Literature, vol. ix, (2nd series,) part 3.
- From the SOCIETY—Journal and Proceedings of the Asiatic Society of Bengal; current numbers.
- From the ANTHROPOLOGICAL SOCIETY—The Journal of Anthropology; Nos. 1 and 2.
- From the COMMISSIONER OF PATENTS, U.S.—American Patent Office Reports for 1867.
- From the SMITHSONIAN INSTITUTION—Smithsonian Contributions to Knowledge, vol. xvi; Miscellaneous Collections, vols. viii and ix; Report for 1868; American Statistical Reports; Proceedings of the American Philosophical Society, and of the Academy of Arts and Sciences; Proceedings of the Essex Institute, and of the Boston Society of Natural History; Agassiz's Address on Humboldt; and Anderson's Journey to Musardu.
- From the SOCIETY—Journal of the Royal Historical and Archaeological Association of Ireland, vol. ii, Nos. 1 and 2.
- From the SOCIETY—Bulletins de la Société d'Anthropologie de Paris. Parts for May and July, 1870.
- From the SOCIETY—Bulletins de l'Académie Royale des Sciences de Belgique. Parts for 1869; and the Annuaire for 1870.
- From the SOCIETY—Mittheilungen der Anthropologischen Gesellschaft in Wien. Nos. 1 to 4.

From the SOCIETY—*Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen*, part xxxii; *Tijdschrift voor Indische Taal-land en Volkenkunde*, xvi, parts 2 to 6; xvii, parts 1 to 6; xviii, part 1; *Notulen van de Algemeene en Bestuurs-Vergaderingen van het Genootschap*, parts iv, v, vi, vii; *Katalogus der Ethnologische Afdeeling van het Museum van het Genootschap*; and *Katalogus der Numismatische Afdeeling van het Museum*.

From the EDITORS—*Matériaux pour l'Histoire primitive et naturelle de l'Homme*. Par MM. Trutat et Cartailhac. Parts for April, May and June, 1870.

From the SOCIETY—*Journal of the Society of Arts*; to date.

From the EDITOR—*The Athenæum*; to date.

From the EDITOR—*The Asiatic*; to date.

From the EDITOR—*Nature*; to date.

COL. A. LANE FOX exhibited a rough stone implement from Borneo (fig. 1). The specimen had recently been sent to this country by Mr.

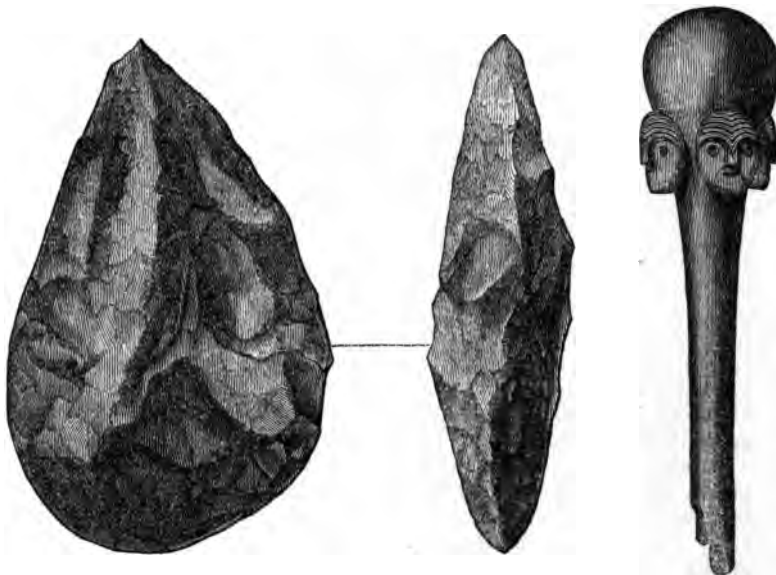


FIG. 1.

FIG. 2.

Everet, and is interesting as being the first implement of the kind which has been discovered in that locality. It is said to have been found in a cave, but detailed information on the subject will probably be duly communicated by Mr. Everett.

Mr. JOSIAH HARRIS exhibited a carved wooden club (fig. 2) which had been found beneath a deposit of guano, twenty seven feet thick, in the island of South Guanape, off Trujillo, on the coast of Peru. The specimen is now in the Christy Collection of the British Museum.

A letter was read from Mr. Clements R. Markham on the significance of the term "Aymara," and a reply thereto was made by Mr. David Forbes, F.R.S.

The following paper was then read by the Honorary Secretary :

VI.—*On the KIMMERIAN and ATLANTIC RACES.* By HECTOR MACLEAN, Esq..

A CAREFUL study of the inhabitants of the west of Europe, from the south of Spain to the north of Great Britain, will lead to the inference that these are principally composed of two elements which are intermixed in an endless variety of ways. These two elements are two races essentially distinct from each other, but which have now, for thousands of years, been commixed to such an extent as to render an analysis of the compound extremely difficult. But, although difficult, it is not impossible ; for the researches of distinguished ethnologists have already done very much to facilitate inquiry, and to open the way towards the desired end.

Two races—one fair and the other dark—intermixed in various proportions, form the principal part of the population of Spain, Portugal, France, and the British Isles. Peculiarities of features, form, and character have led many eminent ethnologists to think that the white inhabitants of all Europe, as well as the dark, consist of several distinct races—such as Scandinavians, Saxons, Slavonians, Celts, and Pelasgians. One fair race, however, seems to have abounded in the fore-mentioned portion of Europe for a longer time ; a race decidedly more numerous there than the other white races, and which contrasts strongly with the preponderating white races of Germany, Scandinavia, and Russia. The peculiar features and character of this race abound more in the British Isles than in France, and more in France than in Germany ; hence English features are found by scientific men to contrast so strongly with German. This race abounded in the British Isles, France, and Spain, ages before Frisians, Saxons, or Scandinavians had set foot upon the ground. At the present moment it is more numerous in the west than in the east of England, and more numerous in Scotland and the north of Ireland than in England.

Although a pure specimen of this race as it existed originally in its native habitat, before it had intermixed with other races, could hardly be found, yet by observing carefully the various degrees of intermixture, it is possible to arrive at something like correct results with regard to its essential characteristics. This race—the oldest white race in Britain, France, and Spain—may be conveniently designated the *Kimmerian*,* for the terms Kelt, Celt, Cimbrian, Cymry, and Gael, although properly the name of one race have been applied to its numerous intermixtures with other races, and have often been of late theoretically employed to denote different races. The race has been known in various regions, and at various periods by the several names of *Kimmerii*, *Galatae*, *Keltoi*, *Celtae*, *Galli*, *Gaidal*, *Tochari*, *Caledonii*, *Cimbri*, *Veneti*, *Scoti*, and *Gael*. How it has come to be designated by

* The earliest name by which the race is known is *Kimmerii*, which means "fit companions" or "peers." It is derived from *kim*, "together," and *er*, "a man." The name *Kimmerian* has the advantage of not having become a national name, at periods when it would be necessary to distinguish nations from races.

these several names will be shown in the sequel. It has been so long settled in the west of Europe, and so long intermixed with another aboriginal race, that it has been almost considered indigenous. In eastern England it is to be found mixed with Saxons, Frisians, and Scandinavians; in Cumberland, the Scottish highlands, and various other districts with Scandinavians, and an aboriginal dark race to be described hereafter; in Wales and the south and the west of England with the same dark race, and with various Teutonic races; in the south and west of Ireland principally with the said dark race; and in the north and east of the same country principally with the Scandinavian. The Scottish lowlands have a larger admixture of Saxon and Frisian blood in the south-east: in the north-east the population is principally Scandinavian and Kimmerian; in the south-west the Kimmerian is largely intermixed with the dark race, and with the Scandinavians.

The Kimmerian varies in stature, but is frequently tall. He is often gaunt in appearance, and has an elastic springing step. The thigh and leg are usually very well proportioned with respect to each other; the foot is frequently finely formed, and the instep is high. Men of this race are excellent walkers and runners, to which ancient history, and especially the Scandinavian Sagas bear testimony. They have always been excellent horsemen and cavalymen, and have ever loved the chase and a pastoral life. The rapidity of French marching is proverbial, and the retreat of the Highlanders from Derby to their own country in 1745 was so rapid that historians talk of it with astonishment. The chest is large and rather square, but generally the digestive organs are not proportionately developed. The head is long and high, the forehead square, and the lower part of it is usually very prominent; the cheek-bones are rather large; the lower jaw and chin often narrow; the lower jaw is placed rather obliquely with respect to the neck, and its contour approaches a straight line. The eyebrows are long and not strongly arched; indeed, sometimes so little arched as to appear to the eye almost horizontal straight lines. The nose is large and sinuous, the face long and angular, the hands square. The colour of the skin is white, with a tinge of ruddiness. The most frequent colour of the eye is light grey, with a shade of blue. The hair is yellow, yellowish-red, and reddish-yellow, passing into dark reddish-brown, and dark brownish-yellow. The Kimmerian eye is remarkably clear and lively: it has usually a very pleasing expression, which sometimes contrasts remarkably with the huge rugged eyebrow that projects over it, and the harsh features which it is destined to illumine. It is free from the fiery lustre of the eye of the dark race upon the one side, and from the cold sternness of the Teutonic eye on the other.

Individuals of this race possess strong and quick perceptive powers, but owing to the buoyancy and vivacity of their character, they are not accurate observers. They are loquacious, argumentative, and fond of disputation. They are clear and acute reasoners, more deductive than inductive, extremely precise, and abhorrent of all vagueness. Their love of precision is powerfully stamped upon the literature and

languages of all peoples in whose composition they form a chief constituent. They are deficient in deliberation, and make abstract argument, rather than fact or precedent, their guide in the affairs of life. They despise expediency, and enthusiastically pant for ideal perfection, which they ever believe can be realised at some future period, however often they may have been already disappointed. In this respect they contrast remarkably with the Teutons, among whom experience, fact, and deliberation play so conspicuous a part. They have a very fertile imagination and much invention, but less constructive and artistic ability, than the Atlanteans, with whom they have intermixed. They believe in absolute right and wrong, which they refuse to make an affair of feeling, law, or contract, to all which they are prone to oppose abstract reasoning, and ideal theories of perfection. From this peculiar cast of mind proceed many of their good and bad qualities; and, when not enlightened, the difficulty of governing them, and their disobedience to law.

The Kimmerian is restless, active, vivacious, and irritable; but he has less enduring power than either the Atlantean or the Teuton. He is full of social sympathy, and looks upon individual and domestic interest as of small consequence in comparison with social duties. He is more attached to persons than to places; his feelings of friendship are extremely expansive, and from a clansman, or a patriot, he readily passes into a philanthropist or a cosmopolite. When a member of an organised community, holding a place assigned to him, no one can fulfil his duties better, or act his part with more firmness and resolution; but, left to himself, he is indecisive and languid. This arises from the strong preponderance of the social feelings in his temperament. His moral notions are strikingly contrasted with those of the Scandinavian race, whose ethical code has always been mostly founded upon law and contract. "Do for yourself, and do no injury to another", is the great moral maxim of Saxons and Scandinavians; and, in order that it might be carried out, laws and contracts were made a thousand years ago at the meetings of the *Thing*, and ever since, at meetings much akin to them, wherever these races have borne sway. The moral notions expressed in the Saga of "Burnt N'jal", and those expressed in the *Essay on the Human Understanding*, by John Locke, do not assuredly differ widely from each other; but certainly both do differ widely from those of Malebranche, Berkeley, Descartes, and Pascal. Law made and administered at the *thing* seems to have formed the basis of morality in Iceland in the time of Burnt N'jal; and, according to the great English philosopher, John Locke, whose form and features point him out as belonging principally to the Scandinavian race, morals have no other basis. It is remarkable that Voltaire, who was Kimmerian-Atlantean, opposed the moral theory of Locke in one of his romances. In those parts of the British Isles where the Scandinavian race preponderates, it is ascertained that much litigiousness abounds. Men of this race go to law coolly about trifles, and all is settled by the decision of the judge. The last thing men of the Kimmerian race do is to go to law, but they dispute and quarrel very hotly about insignificant matters. Hardly any legal decision

can convince a man of this race that he is wrong, and yet no one more readily admits the force of correct abstract reasoning.

The Kimmerians are easily roused and depressed, extremely fond of novelty, and ever inquiring for news. They are braver in attack than in defence. Although possessed of immense aggressive courage, yet they have frequently been attacked in their own country, and expelled from it. Of this, history relates innumerable instances. Their love of glory and of doing daring deeds has too often been to them a source of bitter misfortune; while their recklessness and contempt of danger, have too often deprived them of greatness and superiority, which their genius and bravery would have otherwise enabled them to attain.

Full of sympathy for weakness and distress, and with sentiments of benevolence that induce them to take an interest in the well-being of mankind in all lands, they have been ever ready to march into distant regions to defend with the sword the cause which they supposed to be just; or actuated by religious sentiments, they have endured solitude—of all things the most painful to them—cold, hunger, and all kinds of privation, in order to impart a knowledge of what they have believed to be religious truth, to those nations which they considered to be benighted. In the seventh, eighth, and ninth centuries the continent of Europe was overrun by Irish missionaries, and this propagandism was followed by chivalry and the crusades. All these movements sprang from the Kimmerian element in the French, British, Spanish, German, and other European nations.

Gallantry is a remarkable trait by which this race is distinguished from most others. Amongst them, woman has ever held a high position. She has commanded their armies; ruled as their sovereign; deliberated in their councils; and, as a wife, claimed her own property. Among the Iberians, whom they had conquered, she was held in an inferior condition; among the civilised Greeks and Romans, her position was sufficiently humiliating; the Salic law introduced by the Franks into Gaul, shews clearly that she was not held in very high respect among the Teutons. It is among the Gauls, Britons, and other Keltic or Kimmerian nations, that woman is found holding her true position, and it is among those nations that she is found doing great and noble deeds—deeds honourable to her and to humanity; and from the days of Boadicea to that of Flora Macdonald—whose chivalrous conduct saved the last scion of the royal house of Stuart from being seized as a rebel in the land where his ancestors had reigned—and from that to the present day, there has not been an age in which women belonging to countries in which this race is predominant, have not achieved noble deeds worthy of immortality.

Women of this race do not differ so much from men, either in physical or in mental strength, as do those of other races. This, no doubt, may be partly owing to the respect in which they have been held, and the influence which they have been allowed to exert. The equal position of woman, her merits, her good qualities, her physical and mental excellences, are eulogised in the ancient poetry and tales of those peoples in which this race has been the ruling element, in a manner that might put classical authors, with all their genius and learning, to shame.

As history, tradition, and antiquarian research point to an eastern origin of the fair races of Europe ; and as the oldest white race found in Britain, France, and Spain is the Kimmerian, or Keltic, the question is suggested, What district was the original habitat of the race ? and at what period is it probable that they proceeded westward ? From Herodotus' description of the Kimmerii, and from the names of places, as well as from the names by which the race has been known, in various regions, there are very good grounds for inferring that their original seat was the territory to the north of the Caspian, between the Don and the Volga. Here they multiplied and flourished long before the dawn of history ; rearing and domesticating oxen, sheep, and horses, and leading principally a pastoral and hunting life. As their country became too narrow for them, they impinged upon neighbouring nations, east, south, and west of their own country. Conquering the Tatars to the east of them, they settled among that people, and the commixture of the two produced the Scythian nation. The first part of the word Scythian, *Scyth*, is the equivalent of the Gaelic word *sgiath*, a "bird's wing," or "shield," and of *sgiot*, an "arrow," or "dart." *Sgiath*, in ancient Gaelic poems and stories, means, metaphorically, "a warrior." *Scot* is from the same root, and also means a "warrior." These Scythians moved eastwards, conquered Central Asia, and intermixed with Mongolian nations to the eastern extremities of Asia. The new nations, produced by successive commixtures, recoiled upon the parent nations. The latter were driven westward before the former ; until at last the Kimmerii, the parent pure white race, were expelled from their original seats, and driven into the Crimea—a district which still retains their name ; but long before that time, and probably as early as they had encroached upon the Tatars, they had also encroached upon south-western Asia, and upon western Europe ; intermixing in all those territories with native races. At all times they appear to have been a roaming race. They had settled in Central Asia, descended into Asia Minor, and even fought battles in Egypt. Bearing the name of *Tokkari Tochari* (*Tuath chara*, "the people of friends," or "the kinsmen people") they are found south of Bactriana, and bearing the same name they had been made prisoners in Egypt. They are represented in Egyptian and Assyrian sculpture, from which it appears that, although more or less intermixed with other races, they have still retained for thousands of years their peculiar physical characteristics.

There are good grounds for believing that the first Aryans were an intermixture of Kimmerii and Teutons with an aboriginal race that those nations had conquered, and that from the commingling of the languages of those primitive races arose the ancient Aryan language, the supposed mother of the so-called Aryan languages. The root *ar* meaning "to plough," is more easily explained by the Kimmerian or Keltic than by any other of the Aryan languages. The literal meaning of *ar* is "above" or "high"; *ar*, "to plough," is raising up the soil; *oir*, or *ear*, "the east," is where the sun rises ; and *iar*, "the west," where the sun sets, means below the above ; *iur*, "mould," that which is raised up ; *ar*, "slaughter," the equivalent of war in strewing the ground above with the dead.

The ethnologist has many reasons for assuming that the Kimmerians or Kelts had moved westward at as early a period as they had moved eastward and southward: that bearing the name of *Gaidal*, "fair men," they had settled in the west of Europe previously to the historic period; and that, having conquered the Atlanteans of Gaul and Spain, they entered Africa, where they settled, and are found bearing the name *Gaetuli*. Sallust talks of these Gaetuli as being among the oldest inhabitants of Africa, and as more warlike than the Lybians, whom he also mentions as one of the oldest nations. He speaks of the invasion of Africa by Medes, Persians, and Armenians, all which nations were a commixture of Kimmerians with Pelasgians, the aboriginal race of Armenia, Persia, and Greece. The Gaetuli of Africa were, doubtless, at the time these latter had arrived, an intermixture of Kimmerians and Atlanteans; the smooth features of the Pelasgians, who are still represented in the inhabitants of Persia and Armenia, and in the ancient sculptures of Greece, contrast strongly with the prominent angular features of the Kelts. The statues of the Greek gods and heroes are not ideal, but represent a race which is still to be found in Asia. The statues of the great men of Greece of the historic period display features which seem to present a combination of the Kimmerian with the Pelasgian. The prominent eyebrows and glabella, the curved nose, the rather prominent cheek-bones, and the tendency to angularity in the face, show that the original handsome forms of the Pelasgians had undergone a change in consequence of intermixing with a race less artistic and less refined, but much more warlike, philosophical, and energetic. Kimmerians, *Gaidal*, *Gwyddil*, or *Gaetuli*, were old inhabitants of Africa before their cousins the Persians, Medes, and Armenians had put a foot on that continent. Of this we have an account in the eighteenth chapter of Sallust's Jugurthine War.

The name *Gaidal* is from *cia*, "a man," and *dal*, or *deal*, "clear," or "bright." The word *deal* is from *dè* or *teth*, "that which is hot"; and *al*, "progeny"—the progeny of heat. The modern word is *geal*, which is formed from *deal*. The old form of the word is found as a root in many words, such as *dealan*, "lightning"; *dealradh*, "shining"; *dealt*, "dew"; *dealbh*, "an image" or "a likeness"; *dileas*, "faithful"; *dlighe*, "that which is right." By this name, *Gaidal*, the first wave of Kimmerians distinguished themselves from the aboriginal dark inhabitants of Gaul and Spain, whom they had conquered; the name became in time softened into *Galli*; and this change of name took place in the east before the second wave had proceeded westwards. In ancient Irish the name *Gaidal*, is found; but for the last thousand years the sound of the middle consonant has been lost, and the name is pronounced *Gael*. *Keltoi* is but a contraction of *Galatae*, which is from *geal*, "white"; and *àit*, "a place"; and, therefore, means White Inhabitants. By these names the Kimmerians were distinguished from the dark people, whom they had conquered, just as Europeans are called "Whites" in countries where dark races abound. *Kimmerii*, *Cimbri*, *Cymry* are various forms of one word, of which the modern Gaelic equivalent is *coimpire* "a fit comrade," and is derived from *con*, "union," and *fean*, "a man." The Welsh word *cynhar*, "equal and above," or

"partner," is the equivalent of the same name in the Welsh language. The name Cymry is not derived from *cym*, "jointly," and *bro*, "land," as Zeuss in his *Grammatica Celtica* supposes, but is the same name as Kimmerii. By the name of Kimmerii the race distinguished themselves from other white races; but when they settled among dark races they distinguished themselves from the latter by the names Kelts, Gaidal, or Gael. The latter Cimbri came when a numerous white population was found everywhere in Western Europe, and when they could no longer distinguish themselves by the designation of Gael or white men. It was doubtless a portion of the latter Cimbri that seized upon Wales and gave their name to the people and country.

The oldest wave of Kimmerians was doubtless those who called themselves Gaidal, which name in the form *Gwyddil*, the Welsh at the present day apply to the Irish, and which name in the form *Gwydhili* is the Cornish name for Irish. In Cornish the Welsh are called *Kem-brion*, while the Britons are called *Brethon*. The first wave, the Gaidal, consisted evidently of pure Kimmerians, while subsequent waves were probably Kimmerians commingled with other races. The second wave arrived after *Gaidal* had been changed into *Gall*. At the present day the Scottish Highlanders call their countrymen in the low country by the name of *Gall*. The Gaelic-speaking Irish apply the same name to the English-speaking portion of their countrymen. The Bretons call the French by the same name. The Scandinavians, about a thousand years ago, were so-called by the Scotch and Irish Gael; and in ancient Irish the word meant a foreigner, or stranger; but, in reality, *Gall* is but a corruption of *Gaidal*, and distinguished the old Kimmerian settlers of Europe from the new ones.

After these successive hordes of Kimmerians had commingled with the dark Atlanteans, a mixed people was produced, less tall and fair than the conquerors, and partaking of the physical and mental characteristics of both the original races.

The succeeding waves of Kimmerians were composed of people who were fairer than this mixed breed; and, as the latter were already called Galli or Galatae—Whites, or White Inhabitants—the former, in order to distinguish themselves from the latter, assumed the name of *Veneti*, which also means Whites. The name *Veneti* is derived from the Keltic root *ven*, "white", which has its equivalents in all the modern Keltic dialects: Gaelic, *fionn*, *fhionn*; Welsh, *Gwyn*, *wyn*; Cornish, *Wen*. Another form of the word in Gaelic is *bàn*. It has the form *bion* in "Albion", derived from *Al*, "a rock", and *bion*, "white"; and *bin* in "Sabinus", from *sa*, "good", and *bin*, "white". In Scotch and Irish traditions, this people are highly celebrated. They are, indeed, the principal theme of ancient Gaelic ballad and story. The name, *Feinn*, *Scuit*, or *Gaidal*, is applied to the same people in old Irish. Ancient Gaelic stories and poems celebrate their exploits, chivalry, and generosity. In those poems and stories they are described as fair-skinned, yellow-haired, and long-faced; as swift-footed, eloquent, social, and passionately fond of the chase.

The places of their settlements are still known by their name;

Venetia and *Venice* in North-eastern Italy, and *Vannes* in North-western France. In Gaul, they offered the most formidable resistance to Julius Cæsar, and their ships were much superior to those of the Romans. The name of their capital, Dariorigum (*Doire-righ*), the Grove, or, rather, Oakwood of Kings, or Leaders, is very near the spoken Gaelic of the day. *Righ*, or *raigh*, means literally "the arm", and was not understood at any time in the same sense in which the English *king* and the Latin *rex* have been understood. In the Scottish Highlands, those chiefs who took the lead among others were usually called *righrean*, "kings". In old Gaelic songs, the Earl of Argyll is called *Righ Loch Fionn*, "King of Loch Fyne"; Macdonald of Islay is called, in a poem in the Dean of Lismore's book, *Righ Ile*, "King of Islay"; and often, when a chief took the lead of all the Highlanders, he was called *Righ nan Gaidheal*, "King or leader of the Gael"; and so, in conformity with the instincts of the race, we have *Rex Scotorum*, "King of Scots".

The Britanni, called in Cornish *Brethon* and in Welsh *Brython*, the ruling people in Britain, when Julius Cæsar invaded the island, were Veneti. The name Britanni is derived from *brit* or *brith*, "speckled"; and *anni* or *fheinn*, are the same as Veneti. By this name they were distinguished from the Veneti of Gaul, who were not in the habit of staining or painting their bodies. The old inhabitants, a mixture of older Kimmerian settlers and Atlanteans, were distinguished from the Britanni by the name of Albiones. The numerous names of ancient British nations derived from Veneti, *Feinn*, or *ane*, attest the power which they possessed in these isles. There were the *Brigantes*, from *brig*, "valour", and *Antes, Veneti*, "valiant Veneti" (*Fianntai*); the *Trinobantes* (*Treun Fhianntæ*), "brave Veneti"; the *Simeni* (*Savi-Fianna*) "wise" or "brave Feinn"; the *Novantes* (*Naomh Fianntai*), "sacred Veneti", etc. The *Gangani*, in Carnarvon in Wales, and in Clare in Ireland, from Welsh, *gaing*, "a wedge", and *ani* (*fhienna Veneti*), "the wedge Veneti"; so called from the shape of the districts in Carnarvon and in Clare which they inhabited. *Gwynedd*, the Welsh name for North Wales, means the "country of the fair people".

That the Belgæ were the same people as the Veneti has been fully verified by the researches of literary and scientific men. The name, *Belgæ*, is derived from *bel*, "brave", or "noble", and *gæ* or *cia*, "a man", and they were so called because they were the bravest of the Gauls. The root *bel* means "fire" or "the sun"; literally, that which has life or being, and is derived from *beatha*, "life"; *beatha* itself is from *bith*, "being" or "existence".

The early Roman and Greek historians described the Gauls as large-bodied, fair-skinned, yellow-haired, and warlike. In the time of Cæsar and Tacitus, this description was more applicable to the Germans. One element in the mental character of the Gauls ascribed to them by the early writers still belonged to them in the time of Cæsar, that of being easily roused and depressed. In Cæsar's time, the Germans were braver than the Gauls; but he refers to a period when the Gauls were braver than the Germans, and when they had invaded the latter, and settled in their territory. The Germans of Cæsar's time would,

according to this account, be an intermixture of old Germans and Gallic conquerors. By the intermixture, vigour and activity were imparted to a stolid, imperturbable Teutonic population. A large proportion of the Kimmerian race—a race always fond of travelling and novelty—was carried off from Gaul into Italy, Germany, and other countries, by invasions such as that mentioned by Cæsar, the consequence of which was, that Atlantean elements were increased, and Kimmerian elements diminished, in the country. This explains why the Gauls when Cæsar wrote were inferior in stature and bravery to the Germans.

The dark aboriginal race that inhabited France, Spain, and the British Isles, previously to the arrival of the Kimmerians, still constitutes a large and important element of the population of these countries. It is the preponderating race in Spain; it probably preponderates in the south of France; in the middle of that country it largely abounds; and even in the north and north-east it is far from being rare. It is very conspicuous in South Wales, and in the south and south-west of England; in the south and west of Ireland; and in the inland and northern districts of the Scottish Highlands. A considerable sprinkling is to be found everywhere in England and Scotland: even in the south-east of Scotland, which once formed part of the Saxon kingdom of Northumbria, it is more frequent than might be expected.

Individuals of this race have brown skins; large, lustrous, dark eyes, with long dark eye-lashes; a round head, strongly arched in the phrenological region of veneration, firmness, self-esteem, and continuity. The face is rather round; the forehead is round, sometimes broad, but often low. The lower jaw is strong and massive, and the chin frequently round. The upper lip is large and long, and the lips rather full. The nose is either straight or concave; frequently short, with rather wide nostrils. They have coal-black, or very dark-brown hair, which sometimes curls. There is not much hair on the body, and the beard is weaker than that of the Kimmerian. They have rather thick legs, which are sometimes very much bent. In walking they have a strut, and numerous side motions; but their walk wants the ease and grace of that of the Kimmerian. Both legs and thighs are usually short in proportion to the length of the body. They are broad and well set in body, and are very strong in proportion to their size. They are capable of enduring much fatigue and privation, and can stand an immense amount of coarse labour. Men and women of very fine forms sometimes belong to this race. When a person belonging to it is well-developed, the symmetry of head, features, and chest is truly remarkable. But it is in districts where the race preponderates that finely formed men and women are to be found. A few years ago Dr. Beddoe remarked, in a paper on the Races in the West of England, that the fair-haired women in the West of England were not generally those that got married, but that in reality there was a run upon the dark. It is, however, to be remarked that in the South-west of England, and in other districts where the dark race predominates, fair hair and a fair skin go fre-

quently with coarse features and with ill-formed hands and feet, while a graceful and beautiful form goes with black hair, black eyes, and a brown skin.

The Atlantean is possessed of very great self-respect, strong love of home, keen and powerful domestic feelings, extreme attachment to kindred, much liking to old neighbours, and considerable regard for those with whom he has been long acquainted. He has, however, but little sympathy with strangers, to whom he is usually cold and reserved, but respectful. His patriotism is provincialism, or rather domesticity; for he always views his own home as the centre of his country, or almost as his country. When unenlightened, he is full of antipathies and prejudices. He dislikes strangers, does not seek to associate with them, and, in this respect, is the very opposite of the Kimmerian. The Atlanteans have strong passions, are averse to change, abhor emigration, feel miserable in a strange land, or among strangers, resent injuries intensely, but yet conceal their resentment. They are not so irritable as the Kimmerians, but much more enduringly vindictive. They excel in the mechanical arts, are ingenious and constructive, but are less fond of a pastoral, hunting, travelling, or seafaring life than are the Kimmerians.

Julius Cæsar takes notice of the Aquitanians as a people who excelled in mining. The race has, indeed, always been principally devoted to agriculture and mining. Men of this race have but little ability for speculative philosophy, theoretical science, or any kind of abstract knowledge; but they have more artistic genius than the Kimmerians, who, although they have more imagination, have less constructive power and less concentration.

In literature they excel in deep pathos and in a peculiar kind of humour, which is widely different from the dashing brilliant wit of the Kimmerian or Kelt. To this race Spain, France, and Britain owe their tender and pathetic ballads and sonnets. The Provençal poetry is theirs; so are the ballads of Spain; and so are, to a great extent, those of Scotland.

Their Religion is principally reverence, and has but little to do with philanthropy. It is founded more upon faith and tradition than upon philosophical theology. They are exceedingly firm and persevering; fight gallantly for their home and country; and resist to the utmost all encroachment on their national independence. Numantia and the Silures in ancient, and Saragossa in modern times confirm this view of their character.

The Keltic languages—Cornish, Armoric, Welsh, and Gaelic, both Scotch and Irish—throw considerable light upon the manner in which these two races, the Kimmerian and the Atlantean, have been blended in the west of Europe. The two sounds of *th*, wanting in the Teutonic languages, in French and Gaelic, are found in Welsh and in Cornish. The sharp sound of *th* is the sound of *z* in Spanish, and of *c* before *e* and *i*. The flat sound of *th* is nearly that of *d* in the middle and at the end of words in the same language. These sounds connect the Atlantean elements of England, Wales, and Spain. The Welsh, like Spanish, loves to place the accent frequently on the penultimate syllable. The Welsh

almost entirely wants the sound of *sh*, as does the Spanish. This sound is frequent in Gaelic, French, English, and German. The Welsh language has no words beginning with a combination of *s* with other consonants; neither has the Spanish. In this respect Welsh and Spanish bear some analogy to the Basque, which has a strong dislike to the immediate junction of mute and liquid consonants. These analogies between Spanish and Welsh are to be traced to the influence of the Atlantean admixture in the Welsh and Spanish peoples.

A neuter gender is not now found in Spanish, French, Italian, Welsh, or Gaelic; it abounds, however, in ancient Gaelic and British, as it does in Latin, either the mother tongue, or the representative of the mother tongues of the modern languages of France, Spain, and Italy.

To what is this peculiar change, the loss of the neuter gender in these modern languages, to be ascribed? Doubtless to the influence of the Atlantean mind, which has but little aptitude for abstraction, and in which emotion predominates over intellect. This race, which always views nature associated with life, and which cannot separate life, in thought, from material objects, ascribes sex and life to all things; and so, through the ages, it has modified the influence of its Teutonic and Kimmerian conquerors, and adapted their languages to the feelings and temperaments of those in whom it forms a large constituent.

The letter *f* is absent in Basque; and in Gaelic it is but a feeble consonant, appearing or disappearing at the slightest touch. When initial, it becomes silent by that mutation of the initial letters peculiar to all the Keltic languages; for instance, *fear* becomes *fhear*, *fionn*, *fhion*, etc., *fh* being always silent. It is hardly ever found at the end or in the middle of a word. In Welsh it passes by mutation into *b*; a single *f* in Welsh has the sound of *v*; and, as in Gaelic, is not found in the middle or at the end of words. The Gascons and Basques confound the letters *b* and *v*; and in all the Keltic languages the initial *b* passes by mutation into *v*. In the middle of words the sound of *b* is not frequent in Gaelic, and is hardly found at the end of any one of more than one syllable. In the speech of the common people in Spain the sound of *b* is not distinguished from that of *v*, both having a sound much the same as that of the German *v* or Gaelic *bh*. The Berber word *thala*, "a fountain," and the Gaelic word *tuil*, "a flood," connect the Atlanteans of Scotland and Ireland with those of Fez and Algiers.

The love of symmetry and precision, a strong characteristic of the Kimmerian race, is impressed upon their literature, languages, and social institutions. In the structure of the French language this characteristic of the race is very conspicuous, and it is equally so in that of the old Keltic languages. Every word in the Gaelic language is spelt according to one rule, by which the vowels are placed in one uniform juxtaposition; that is, if the last vowel in the preceding syllable be either *e* or *i*, which are called small vowels, the first in the next syllable must be also *e* or *i*; and the same is the case with *a*, *o*, and *u*, which are called broad vowels.

The same love of symmetry is observed in all Keltic poetry, in which assonance, or the recurrence of similar sounds, is a predominant element. There is good ground for inferring that the frequent assonance and the frequent recurrence of similar ideas and sentiments to be found in Keltic poetry, are to be traced to the Kimmerian mind; and that the original Atlantean poetry was similar to the Latin and Greek; possessed of rhythm without assonance. The celebrated Keltic scholar Zeuss shews in his *Grammatica Celtica* that the Latin hymns of St. Ambrose (born in Gaul, A.D. 333, and died A.D. 397) have the Keltic structure, and are adorned with assonance. He has traced the same peculiarities of versification in the works of the poets of the Lower Empire, such as in those of Ausonius and Lucan.

On account of this assonance not being found in the early Latin poets, Zeuss judiciously infers that it was transferred from ancient Keltic into Latin poetry. Assonance is not found in Keltic verse only; but also abounds in most of the ancient Keltic prose stories.

The peculiar structure of many of the old poems and tales points out some of them as more strongly Kimmerian, and others as more strongly Atlantean. In those in which the Kimmerian mind predominates there are numerous analogous things and incidents, immense action, and endless change of scene; as is the case in the "Lay of Oscar," in the "West Highland Tales," collected and translated by Mr. J. F. Campbell; and in the "Liberation of Finn," in the Dean of Lismore's book. A fault that pervades the literature of the Kimmerian race is having too many incidents and extreme contrasts.

Delineations of passion or purpose, with few incidents and with but little change of place, characterise Atlantean poems and stories. The "Lay of the Heads" and "Fraoch" in the Dean of Lismore's book, and the "Lay of the Great Fool," and that of "John, son of the King of Bergen" in the *West Highland Tales*, are Atlantean in form or spirit. In these latter poems smoothness of versification is more prevalent than assonance. The persons and the changes of scene are few; indomitable perseverance and firmness, rather than dash or daring, are the military virtues of the heroes. In Kimmerian poems and stories immense crowds are described fighting; in Atlantean two or three, or so. Kimmerians have ever fought in large masses; guerilla warfare has been the favourite mode of fighting with the Atlanteans.

Great shrewdness and much penetration into human nature belong to the Atlantean; and these characteristics are brought out in many of the old popular Highland tales: as, for instance, "The Inheritance," which, in the manner in which the guilty person is discovered, resembles the story of the cane containing the gold crowns, in Don Quixote. Don Quixote contains excellent delineations of these two races and of their intermediate commixture. The Knight of La Mancha himself is a caricature of the Kimmerian, as his Squire, Sancho Panza, is of the Atlantean.

In tracing the names of ancient nations of the Kimmerian race from the east to the west, the Keltic languages, Cornish, Armoric, Welsh, and Gaelic, afford the best explanation of them, and supply the roots from which those names have been formed. By the aid of those

names, and of Keltic or Kimmerian languages now living, the migrations of the Kimmerian race can be determined and the directions in which they proceeded ascertained with considerable accuracy. Armenia is from *ar*, "high" or "above," and *men*, the equivalent of the Gaelic *muin*, "top." *Men* or *muin*, "top," is the root of the Latin *mons* and the Welsh *mynydd*; *Albania* is from *al*, "a rock," and *ban*, "a peak," the country of the rock peaks, or the mountainous country; *Alban* or *Albainn*, the Welsh and Gaelic names for modern Scotland, have the same meaning, and are not the same as *Albion*, the ancient name of Great Britain, which means "white rock," a name given to the island by the first Kimmerian invaders; *Eriuan* in Armenia is from *eri*, "a rising," and *van*, the aspirated form of *ban*, "a peak." *Araxus* from *ar*, "high," and *ax*, the same as *uisge*, "water," *as*, *es* or *eas*, "flowing water," or "water-fall;" *Artaxata* is from *art*, "high," *ax*, "water," and *ata* (*ait*), "a place;" *Oxus*, from *ox* or *uisge*, "water." South of the Oxus, on the parallel of 35° north latitude, directly north of the west of India, were settled a tribe of Kimmerians known by the name of *Tochari*, a name already explained. North of these were the *Sacae*, a mixture of Tochari and Tatars, the ancestors of the Saxons. *Sacae* is derived from *sa* (*sàth*), "to pierce," and *cia*, "a man," and means the piercing or plundering man. *Ges*, from *cia*, "a man," is found in *Siziges*, the name of a people in Central Asia, situated on the parallel 46° north latitude, directly north of Bengal, and in *Iazyges*, the name of another people situated to the north-west of the Sea of Azoph. *Rha*, the ancient name of the Volga, is the equivalent of the Gaelic *sruth*, *shruth*, "a stream." *Tanaia*, the ancient name of the Don, is from two Keltic roots, *tan* or *ton*, "moving water," or "a wave," and *eas*, "moving water," or a "waterfall." *Daix*, the ancient name of the Ural, is from *da*, "good," and *ix*, "water."

From Central Asia to the West of Europe, Keltic names may be traced without interruption to the Atlantic Ocean, marking the westward movement of the Kimmerian race; and of the nations produced from their commingling with other races. *Caspium* is from *cas*, "bent," and *bath*, "sea;" *Galicia* in Spain and Austria; *Carrodunum* north of Austrian Galicia; *Carni*, from *carn*, "a heap of stones" or "rocks;" *Liguria*, from *lig*, the equivalent of the Welsh *Llwyg*, "a turn round," and of the Gaelic *liug*, "to bend," so-called from the shape of the country; the *Liger*, now the Loire, is "the bending water;" *Lloegr*, the Welsh name for England, means "the bending land," and is so-called because it winds round Wales; *Batavi* is from *bat*, "a mound," or "bank," and *abh*, "a river," and means "the dwellers on the river-banks;" *Cauci*, the name of an ancient people in Germany, and also in the county of Wexford in Ireland, is derived from the shape of the coast of the territory which they inhabited; derived from the Welsh *cu*, "a concavity," and *ci* the same as *cia*, "a man;" *Cherusci* means "true men;" *Cherus* is nearly the Welsh *cywir* or *gwir*, "true;" and this name fully agrees with the character that Tacitus gives of them. *Hispania*, in Gaelic *Easpainn*, is from *his*, the same as the Gaelic *shìos* pronounced *hees*, "below," and *pan*,

same as *pen*, *ban*, or *beann*, "a peak" or "mountain." *Ci ces*, from *cia*, "a man," occurs in the names of the following Gallic, Spanish, and British nations :—Aulerci, Lemovices, Mediomatrici, Cadurci, Vacci, Tamarici, sea-side men ; Arevaci, Paesici, Durotici, Ordovices, Segontiaci, and Cassii. Cantabri is from *can*, same as the Gaelic *ceann*, "head," *tab*, Gaelic *tabh*, "the sea," and *fear*, "a man"—the men at the head of the sea. In the south of Gaul, and in Spain, where the Atlantean race predominates, names with *tan* are the most frequent ; as Aquitani, Lusitani, Vescitani, and Carpitani ; *tan* means "land" in Gaelic, and "under" in Welsh. It is found in *Mauritania*, which connects ancient Gaulish and Spanish names and the Welsh and Gaelic languages with the Barbary States. It is found in *stan* in the names of eastern countries, and there probably nations with the Atlantean element predominant in them met and intermingled with Kimmerian and Aryan nations. *Tan* is not found in the names of nations in Northern Gaul, Germany, Northern Italy, Russia, Scandinavia, or Britain. Such a name as *Coritani*, a British name, is from *corit*, the equivalent of the Gaelic *curaidh*, "a champion," and *ani*, same as the Gaelic *fheinn*, Veneti, and means the champion *feinn* or Veneti.

The institution of Druidism peculiarly reflected the mental characteristics of the Kimmerian race ; their speculative and organising tendencies. As it was not found in Spain, and was peculiar to Gaul and Britain, it may be averred that it was a Kimmerian institution before the race had ever proceeded westwards ; and as it was not found in Germany in the time of Julius Cæsar, there is no ground for supposing that it belonged to the other white races. Cæsar informs us that the Druids speculated much upon the nature of the gods, and other objects in nature. They were the judges and religious instructors of the people. From what Cæsar relates, it appears that their religion was more than mere faith and worship, and that there was present in the race then the same mind which in modern times produced the Institutes of Calvin, the Provincial Letters of Pascal, and the Philosophy of Malebranche, Des Cartes, Berkeley, and David Hume. The name of the chief god of the Gauls is derived from *tut*, the same as the Welsh *twt*, which means "completeness," and from *tat*, "father," and *es*, "person"—the person who is the father of completeness or perfection. *Hessus*, the name of a Keltic goddess, is from *hess*, the same as the Gaelic *teas*, *theas*, "heat." *Teas* is derived from *teth*, "hot," or "that which is hot." *Dagh* is an old Gaelic word for "heat ;" *da* means "good" in Welsh and Gaelic ; *de* and *deas*, "the south, or the warm region ;" *deo*, "breath," from the same root, as is also the Latin *dies*, and the English word *day*. *Druid* is from the Welsh *dir*, "force," and an ancient Irish word *id*, meaning "good," and signifies "good power," or "power of good." *Dar*, *derw*, *darach*, "oak," is derived from *dir*, and means "strong wood."

While the religion of the Gauls had perfection for its aim, that of the Germans was centred in profit ; and this is in full consistency with the character of a people whose highest desire is personal freedom. Cæsar informs us that the Germans worshipped the sun and moon, and those objects in nature from which they derived immediate

benefit. Their religion, however, had undergone a change between the time of Cæsar and that of Tacitus; for, in the time of Tacitus, their worship approached that of the Gauls, and Teutates had become their chief god. This state of matters clearly proves how much the Kimmerian element had gained ground in the German character during the interval of time that elapsed between the age of Julius Cæsar and that of Tacitus. Those German nations that left their own country and seized upon the other countries of Europe, after the fall of the Roman empire, drained away from Germany a large portion of her Kimmerian blood; as the Gallic invasion of Germany, mentioned by Cæsar, had previously done to Gaul.

The Saxons and Angles were evidently an intermixture of Teutons and Kimmerians. As these nations are not mentioned in Tacitus's *Germania*, they probably settled in Germany subsequently to the time at which that work was written. When they emerged first from the Cimbric Chersonese in the reign of Marcus Antoninus, they were obviously a mixture of a new people and of the remains of the Cimbri of Roman history. The name Saxones would appear to be a modification of *Sacæ*, and the new people that intermixed with the Cimbri were doubtless a portion of the Sacæ of Central Asia, who were themselves a commixture of Kimmerians and Tatars.

The Saxon and Angle invaders of England having therefore so large a proportion of Kimmerian blood, their language would doubtless have a strong Kimmerian admixture. On the other hand, the inhabitants of the east of Britain had unquestionably before the arrival of these invaders, a strong intermixture of Teutonic blood. Consequently, the language of the invaders, and that of the natives whom they had encountered, would have so much in common that they would very easily blend into one. It would be wrong to take the Cornish and old Welsh as the exact representatives of the ancient British languages. The Welsh do not call themselves Britons, but Cymry. In Cornish they are called *Kembrion*, while the Britons are called *Brethon*.

The effect of the conquest of the Britons by the Saxons and Angles was much the same as if Spain had been conquered by the French. French and Spanish would readily blend, and the new language produced by the intermixture would much depend upon the proportion that the conquerors bore to the conquered. As those Saxon and Angle conquerors had fought furiously against each other for centuries after their settlement in Britain, and as Britons fought occasionally with Saxons against Saxons, and with Saxons against other Britons, the consequences of such fighting and wars would be reverses. Britons would be raised in position and Saxons lowered. Successive intermixture would confound the conquerors with the conquered. The independent Britons and the fugitives who had retired into Wales, would disclaim those Britons who had intermixed with the Saxons, and all those who sprang from the commingling of the two nations. In this manner, Britons, Angles, and Saxons, became, there is very little reason to doubt, one people. The first Anglo-Saxon written was evidently a language which had sprung from that of the conquerors and that of the conquered; but which, at its earliest stage, had more of the speech of the conquerors than at succeeding periods.

The English, with a large intermixture of Teutonic blood, and a very considerable share of Atlantean, are principally Kimmerian in race, and are more truly the descendants of the ancient Britons than the Welsh; whilst their language is not the direct descendant of the language of the Saxon conquerors, but the descendant of both that of the conquerors and a kindred native language.

DISCUSSION.

MR. HYDE CLARKE, while acknowledging the research of Mr. Maclean's paper, objected to its limitation of the white races in these islands to the Celts and English, and of the dark races to what the author called the Atlanteans. There was no evidence that the Kimmerians were the oldest white race, but the contrary. As to the statements of Herodotus, they were partly fabulous and partly worthless. It was very unlikely that the Greeks would adopt Celtic roots for the name of Scythian or Skuthian. They took the name of Skuthian from the race bordering on the Skuthian, called the Amazons; and in modern Georgian, *Skuc*, means a stranger, Skuthian being therefore a term like that of Welsh. As to the Skuthians, the remains of their language show an affinity to Manchoo, which, ethnologically considered, is a reasonable derivation. With regard to the question of races, white or dark, the proto-historic fact we have to deal with, is the remarkable conformity of river and other topographical names, reaching at least from the Assam frontier westward into our own districts. These are not to be explained by Celtic or other Aryan methods any more than they are by Iberian, but they are explained by Caucaso-Tibetan in the form of Georgian. This evidence points to the migration of a vast horde of dark and white races eastward from India to the west. Then, as to Atlantean, as yet there is no material for judging of any Atlantean migration into Spain, for it is erroneous to assume the Iberians or Basques to be necessarily Atlanteans. He (Mr. Clarke) had found that the classification of the Basque language is distinctly with the Dravidian group, with this remarkable peculiarity, that the deficient Dravidian roots are supplied from Kolarian, showing decidedly that the departure of the Iberians was from India. Thus we have two streams, at least, of dark and white races departing from India, and affecting us in these islands, altogether apart from the influence of Celts and English.

MR. J. F. CAMPBELL (of Islay), having been called upon by the Chairman, said:—I am glad to rise at the desire of my clansman and your Chairman, but I have very little to say, for I am not an ethnologist. I have read Mr. Maclean's paper; I have travelled a great deal about the Highlands of Scotland and the British Isles, and I have just been in the West to gather Gaelic traditions. I can confirm Mr. Maclean's statements of fact from my own observation in this kingdom, in Iceland and Scandinavia, and in a considerable part of Europe, including Finland, part of Russia, Germany, as far as Vienna, France, Italy, Spain, and Portugal. I have also run through "the Labrador," and the Northern States on the other side of the Water. I think very highly of Mr. Maclean's paper. I know that he has worked

very hard at the subject for many years. You will think all the better of the writer when you know that by sheer hard brain-work and native wit he has taught himself all that you find indicated in this remarkable paper, besides a great deal of knowledge which does not bear upon this subject, and, therefore, does not so conspicuously appear.

As to the facts, whatever the ethnological explanation may be, it is certain that two very different sorts of men of very distinct types do exist in these our islands, and may be seen in Piccadilly, St. James's Street, and Pall Mall every day. The fact is more conspicuous out in the west, where islanders are separated from neighbouring islanders by stormy seas, and mainlanders are hemmed in by ranges of mountains, so that men of the same type exist in groups.

First, there is a tall, orange-coloured, bony, long-legged, fair-skinned, ruddy, freckled, russet, or occasionally dark-haired man, with blue grey eyes, who is generally to be found rising steadily, or risen to some step on the social ladder. Specimens may be found about Naval and Military Clubs in London and all over the world. That is the man who is called a "Kimmerian" in the paper which has been read, and the writer of it answers to his own description of this race.

There is, secondly, a short, broad, duck-legged, muscular, muddy-skinned, black-haired, squat grey-eyed or brown or black-eyed man, who is generally to be found sticking fast in the mud or seated upon some step below his tall russet neighbour. That is the man here named "Atlantean."

Neither of these typical men is like the lint-haired, raw-sienna-coloured, big, square, bony Scandinavian who now lives in Scandinavia, or the typical flaxen Saxon or Teuton who lives in Germany. The modern Icelanders, taken as a whole, are the exact counterparts of the modern Hebrideans and west-coast men, of whom the bulk are the so-called "Kimmerians and Atlanteans." They are all cross-bred. We know from history that the Icelanders are a mixed breed of Scandinavians, Irish, and Hebrideans.

Amongst the Scandinavians in Scandinavia were and are tribes of black-haired brown-eyed Lapps. In some Scandinavian glens the characteristics of Lapps can all be traced, where the dress, language, manners, and customs of these Turanians have all disappeared. In the Western Isles of Scotland, besides three marked types, which may be distinguished by the colours, burnt sienna, raw sienna, and sepia, black-haired brown-eyed men and women are still to be found here and there who might be Spaniards. The explanation commonly given is that they are descended from the crews of Spanish Armada vessels, which were blown round the North of Scotland, and wrecked in the Hebrides.

Besides these, some may be seen out in the west who might be Basques from the Pyrenees; and some have a decided Negro or Indian aspect, which is easily explained sometimes; and is quite inexplicable in other cases. Some are descended from Scotch colonists and natives of distant lands; others seem to be natives of the Hebrides with long pedigrees. But, speaking generally, men may be divided

into big, russet, orange, and lemon-coloured men, and little dark men, who are the most numerous class, and generally the poorest. These I take to be the "Kimmerians and Atlanteans" as named and described by Mr. Maclean. I have no proofs to offer, but I have come to the conclusion, almost instinctively, that these types represent in some degree invaders and aborigines, Aryans and Turanians. But, on the other hand, soil and food seem to affect personal appearance, for men of different appearance occupy opposite ends of the small island of Tyree, where difference of soil causes difference in agriculture and food. Those who feed on meal are fair, as the Aryan ploughmen were of old. Those who feed upon roots and fish are dark, as Lapps are who do not feed upon cereals.*

If we think for a moment of our history, we see the utter hopelessness of finding or distinguishing pure races in such a population as ours. The land was thickly peopled before the days of Cæsar; there is a Roman element amongst us, if we only knew where to find it. We know that Saxon, Scandinavian, Norman, Gypsy, Hindoo, Javanese, and Negro blood enters into our cross-breed. But, take the whole together, and the population of these isles may be resolved historically into aborigines or home-bred people in large numbers, and successive invaders in smaller bands. Out in the west the invaders were flaxen-haired Scandinavians, and there we now find manifest Scandinavians living, beside the russet men and the dark men, the "Kimmerians and Atlanteans" of the paper just read. It seems fair to conclude that these non-Scandinavians represent the people whom Cæsar and the Scandinavians found in Britain, and it is good ethnological work to strive to trace them through Europe to Central Asia or elsewhere as far as you can.

I am not sure that this way has been tried before. In "the Book of the Dean of Lismore" are translations from Gaelic ballads written down about 1530, or sooner, in Argyllshire, and published in 1862 in Edinburgh. I have quoted a few passages which describe the personal appearance ascribed to the heroes of these ballads, which I believe to be of very great antiquity.

According to Irish authorities, the Fenians flourished about A.D. 300, and these are quotations from ballads attributed to Osin or Ossian, who was one of the leaders of the Fenians.

A manuscript genealogy of the Argyll family gives the Gaelic names by which different men were described. Together these writings give a series of pictures of men who have succeeded each other as leaders out in the west for about 1500 years. They are "Kimmerians"—"burnt-sienna men."

It will be seen from the quotations that the ancient ballads and the nicknames in the genealogy agree in describing the same kind of russet, orange-coloured, fair, white-toothed, big men, who may generally be found with the names of Maccalain, Macarthur, Macgregor, Maclean, Maclellan, Macdonald, Macneill, Campbell, and other west-country names; and who may be seen in London by the dozen any day.

* This rests on the authority of John Campbell, the Chairman's brother who is the Duke of Argyll's manager in these regions.

Mr. Maclean says that these russet men are "Kimmerians rather than Atlanteans." I should say that they are more Aryans than Turanians; more invaders than home-bred or aborigines. But, if I take marriages recorded in this Argyll genealogy as a sample of many similar genealogies, it is perfectly plain that every old British breed is crossed with all the breeds that ever bred in these islands. It is the same with every brood whose history is recorded in the peerage or elsewhere. We Britons are Aryans and Turanians, a jumble of nationalities and races, with the qualities of all fused, and no power will ever separate the elements which have been mixing in these islands ever since the days of the flint-workers, whoever they may have been ethnologically.

I take this genealogy because I happen to have it; similar genealogies abound, but I have not got copies to quote from. Your Chairman's tribe, the Campbells, are called in the Highlands, in the Argyll genealogy of 1790, and elsewhere, Clan Oduimhn, or Oduinn and Siol Dhiarmaid: the children, or tribe, or spore, or seed of Diarmaid, the brown-haired man who was the nephew of Fionn, the fair commander of the Fenians.

In Dean Mac Gregor's book Fionn is thus described (p. 27):—

"Marble his skin,
The rose his cheek,
Blue was his eye,
His hair like gold,
All men's trust,
Of noble mind,
Of ready deeds,
To women mild,
A giant he,
The field's delight,
* * *
Excellent he,
Of noble form,
His people's head,
His step so firm."

That purports to be a portrait of about A.D. 200 to 300, and agrees with Mr. Maclean's definition of a Kimmerian of the present day, or a picture of a lady with hair of the fashionable colour, which was fashionable amongst the ancient Gauls, and artificially produced of old as it is now.

Diarmaid is thus described (p. 34):—

"Brave, noble Diarmaid, Mac O' Duine—
Slain, it is a shame! Victim of jealousy.
Whiter his body than the sun's bright light;
Redder his lips than blossoms tipped with red;
Long yellow locks did rest upon his head.
His eye was clear beneath the covering brow;
Its colour mingled, was of blue and grey [or green].
Waving and graceful were his locks behind,
His speech was elegant, and sweetly soft;
His hands the whitest, fingers tipped with red;
Elegance and power were in his form;
His fair soft skin covering a faultless shape.
No woman saw him but he won her love."

Oscar, grandson of Fionn and son of the bard, is called (pp. 41, 42) —

“The fair-skinned hero,
His fair, soft eyelid fell.”

Cairbre, another hero, though a foe, is described as “ruagh,” rosy, russet; the colour meant by rosy, in *Rob Roy*, the “Burnt Sienna” of painters.

Gaul, or Goll Mac Morna, another hero, is described (p. 45) :—

“Brown are his locks,
Marble his skin,
Perfect his form,
All full of grace,
His teeth so white.”

The description of good white teeth, like the flower-petals of, say, a daisy, agrees, I believe, with the fact, proved by skulls, disinterred.

These ancient portraits of leading warriors all represent what Mr. Maclean calls “Kimmerians,” and they are all Fenians who lived before A.D. 300 or thereabouts.

Fraoch was different; he was of the black-haired variety (p. 57) :—

“Lovely those lips, with welcomes rich,
Which women liked so well to kiss.
Lovely the chief whom men obeyed.
Lovely those cheeks like roses red;
Than raven’s hue more dark his hair;
Redder than hero’s blood his cheeks;
Softer than froth of streams his skin;
Whiter it was than whitest snow;
His hair in curling locks fell down;
His eye more blue than bluest ice;
Than rowan’s red more red his lips;
Whiter than blossoms were his teeth.”

He was also as tall as a ship and slew a dragon, according to the ancient legend.

It is common in the Highlands to find a dark-haired individual in a russet family, and this poem exactly describes this kind of man. Mac Donald, Prince Albert’s Jäger, was a very tall black-haired gray-eyed man; his brother is a russet, yellow, orange-coloured man.

In the *Poem of the Heads* (p. 58) are many descriptions of heads hewn from their bodies in revenge for Cuchullin’s death. Amongst them are “Black-haired with ruddy cheeks;” “With smooth soft flowing hair, an eye like grass, his teeth like bloom;” “A fair-haired head;” “Six hideous heads, blue in the face, their hair so black,” which seems to mean Atlanteans; “A head noblest of all, with bushy golden yellow locks,” which was the head of Mac Finn, Mac Ross, son of Fair, son of Ross the Red, the son of Cruith, King of Leinster.

At page 70, it is said :—

“There lies beneath the mound to the north,
Mac Cumhal’s son, in battle firm.
Of Dearg’s (Red’s) daughter, the white-toothed-son.”

Conan, another Fenian worthy, was blue-eyed and bald (p. 86.)

At page 100 is a description of an Irish king, who reigned A.D. 916, "Neill black knee":—

"Fair he was, all except the knee;
Great were his beauty, and his fame;
Soft were his locks, and gray his eye."

At page 109, a poet of more modern times, describes a lady whom he admires:—

"Her skin like froth of waves;
Ruddy and soft her hand;
Her lips like berries red;
She of curling locks,
And colour richly red."

At page 134 is an address to the Earl of Argyll, who was slain at Flodden 1513. In this several of his ancestors are described by their nicknames. The poem ends thus:—

"Wake thee up, thou son of Colin;
Golden haired one, war is begun.
'Tis not good to sleep too much."

At page 152 is mention of

"From Eirin's princely champions,
A troop with soft ruddy (russet?) hair."

In short, Gaelic poetry, current about A.D. 1500, and then attributed to Osin or Ossian, and other ancient mythical poets of A.D. 300, and intermediate dates, described leading men who were like those whom Maclean describes as "Kimmerians," now living in the West Highlands, and people whom we meet every day in London. The metallic lustre of the hair is the peculiarity which is most conspicuous in the breed now, according to my views.

But, if we take up the Rig Veda, or any other ancient heroic Aryan composition, the leaders are described as fair, blue-eyed, golden-haired, yellow-haired or brown-haired, orange or lemon coloured, tall, active, russet men. Indra is so described in the Rig Veda. It would be long to name all the heroes who were Barbarossas in Aryan mythology. Therefore, I take a long stride at once, and call the russet orange-coloured men of Britain and all other like men, "Aryans." The Kimmerians were an early western colony, but Indra was a Barbarossa, and he went east. Inasmuch as the type exists, it does not seem necessary to invent an imaginary Solar origin for all these Aryan leaders and heathen gods.

Who the other people, admired of ancient British poets, may have been, it is not so easy to say. Like Fraoch of the ballad they were "black, white, and red." Hair black as the raven, cheeks red as the blood of a fawn, skin white as the snow upon which a raven lit and a dead fawn was laid, when the prince in the story looked out in the morning and fell in love with the lady whom he there and then imagined from what he saw.

If these "black, white, and red" blue-eyed Scotch beauties be "Atlanteans," they abound chiefly in the west of Scotland, and they are a very good-looking race when they are good samples. I know nothing exactly like them out of the Highlands of Scotland, and I suspect that

they indicate a cross between tall russet Aryans of Indra's golden breed, and short black-haired Turanians, who were pre-Aryan in these our isles. I leave this matter in your own hands, but here is a short list of ancient nominal Campbell family portraits, to show continuity of carrots in the North.

620. Dun Farquhar ("Ferither our").

646. Duimhn mór ("the big").

786. Duimhn the red-haired ("falt, dhearg"). Farquhar, the fair russet ("fin ruo").

860. Duimhn the red ("dearg").

904. Duimhn the brown ("donn").

977. Duimhn with the white teeth.

1254. No. 24 on the list, 8th Campbell, 9th black knight of Lochow; Callen, or Colin the big.

1450. Archibald the russet, roy ("ruagh")

1553. Archibald the russet, the younger.

1603. Archibald the grim.

1703. John the russet, Duke of Argyll and Greenwich.

1870. George, the present Duke, is golden-haired, and all his family are "Kimmerian, with lustrous metallic hair."

I am quite aware that a modern theory converts Indra's beard, the hair of Phœbus, and Balder, and Fionn, into rays of yellow sunlight. I prefer the simple terrestrial explanation, which is before our eyes, and believe that these mythological Aryan leaders were men very like those whom we meet every day in London; orange or lemon-coloured, or golden Aryans, invaders of lands occupied by dark, or by black-haired non-Aryan men, with whom the yellow-haired "Xanthochroi" have been crossed. Those who wish to see the short dark men in numbers, will find them between Barra Head and the Butt of Lewes, and all down the west coast of Europe as far as Gibraltar. They are not like Lapps, who are black-haired also; I suspect that they represent some cross between fair and dark races. Whatever they are, I can confirm Mr. Maclean's statements of fact. These two kinds of men do exist amongst us. Mr. Maclean's account of their mental and other peculiarities is taken from his own observation, and from his reading; these and his conclusions must take their chance; I have not formed an opinion upon the numerous questions which arise.

NOVEMBER 22ND, 1870.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following new Fellow was announced: GEORGE MACLEAY, Esq., Pendhill Court, Bletchingly.

MR. EDWYN REED exhibited rubbings from three inscribed wooden tablets from Easter Island.

The Rev. F. W. FARRAR, M.A., exhibited four stone implements from the Naga Hills, and communicated the following note upon them :

VII.—*Note on STONE IMPLEMENTS from the NAGA HILLS.* By
Lieutenant BARRON, B.S.C.

THE Naga Hills, whence these stones were brought, lie about 27 deg. N. lat., and between 96 and 97 deg. E. long. They form the boundary between the north-east corner of Assam and the northern part of Burmah. All four stones were brought to me by the same person, a Naga, whose name is Man. No. 1 (fig. 3) was brought to me at the end of March, 1869, while I was encamped at Jeypore, near the Naga Hills. Man said it was found on ploughing a field. No. 2 (fig. 4) was brought to me on the 1st of April at Jeypore. I made the following notes:—"Man, a Naga, brought me another axe. When questioned, he said that they fell from the heavens, that they were of

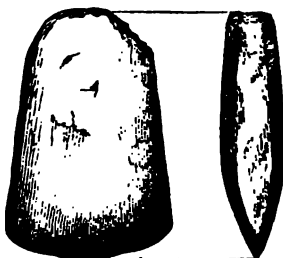


FIG. 3.

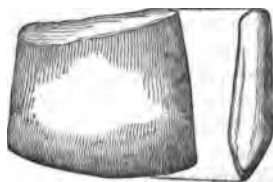


FIG. 4.

three kinds—one like No. 1, the other white (native word, "*boga*"), and the third red (native word, "*lal*"); that this one, No. 2, was found three months before ; that a tree was knocked down, and near it was a hole in the ground from which the stone was taken ; and that only fortunate people could find these stones.

"After I questioned Man, there passed three Fakials or Shans, who were originally from Burmah, and are quite distinct from the Assamese or Nagas. I called them up, and shewed them first No. 2. I asked them if they knew what it was. They said that it was a stone from heaven, but was a *dead* one, and not so good as No. 1, which I then showed them ; that they fell from the heavens, and were of three kinds—one kind being like brass (or as they expressed it, like their *brass pots*) ; that only fortunate people could find them ; and that they fell all over the country, and in their country too (*i. e.*, in Burmah).

"They evidently thought that some virtue had gone out of No. 2 (fig. 4) as they spoke of it as *dead*, and of No. 1 (fig. 3) as *living*, as if the stone-spirit was influenced the same way. In fact, the sharpest of the three Shans turned up his nose at No. 2 stone, but looked pleased when he saw No. 1, and said that it was the real thing.

"There was no communication between the Naga and the Fakials during the two conversations, and the interpretation was made through a Dñanca—an Assamese. The similarity of the ideas of the two nations about these stones is curious. It appears that the idea of their falling from heaven has a hold of all their minds."

In conversation with these men I said that the stones from heaven

were generally round, and not of this shape (I meant meteoric stones). My Bengalee officials said that they knew the round stones from heaven, but had never seen them in this other form.

The Fakials said that these axe-shaped stones are found generally within a foot of the surface of the ground; the Naga said about a cubit, *i. e.*, he pointed from his finger tips to his elbow.

The Fakials, though they recognised the forms of the stones, said they had none at that time; otherwise I would have endeavoured to obtain them.

I omitted to note the cause of the tree falling as mentioned by the Naga, if he told me; but I may state that on the 10th December, 1868, a violent earthquake occurred in Cachar and Assam, which caused numerous rents in the earth in Cachar, and in these Naga hills was sufficiently severe to cause, perhaps, trees to fall. I was in the same range of hills when the earthquake took place. The date of the stone No. 2 being found, according to the Naga, agrees wonderfully with the date of the earthquake, that is to say, if any credit can be given to his story. I think in this case it might be probable that the place where the stone was found might be where the roots of the fallen tree had torn up the ground. The natives have, however, another superstition connected with these stones, *viz.*, that when they fall they sink into the ground, and, after lying a certain time, the ground opens, and they are found in the fissure, or come to the surface.

No. 1 appears to be jade or serpentine. On cutting No. 2 with a knife it is soft and apparently a sort of marble or limestone. No. 1 could not by lapse of time become of the same appearance as No. 2, I am at a loss, therefore, to account for the idea of the natives, that No. 2 was useless and had become *dead*. The Naga parted with No. 2 at half the price of No. 1.

I told the Naga man to bring me any more he could find. A few months afterwards he came to me at Dibrooghur, about forty miles west of Jeypore, and brought me Nos. 3 and 4. I gave him less for them than for the others. All four appear to be genuine, as their forms are different, and are closely allied to forms of the same sort of axes found in other countries.

I may note that in one of the published papers of the "Asiatic Society of Bengal" for 1868 or 1869, it is stated, as far as I recollect, by a gentleman, who apparently had found stone axes in Lower Burmah, that they were also found in Upper Burmah, but that there the soft sort (like Nos. 2 and 3) were genuine, and those of jade (like No. 1) were suspicious. It was curious, however, to find that the Fakials, who came originally from the Upper Burmah, and the Nagas on the border, all look on the jade stone as the best, and do not value the others.

As I know of only two other stones, besides these, from the Naga Hills, that have come under observation (*viz.*, Lieut. Steel's and Mr. Haly's specimens, both of jade, I think), perhaps further inquiry will alter or confirm the opinion expressed in the Asiatic Society's paper.

The following paper was then read by the Assistant-Secretary :

VIII.—*THE CONCORD, THE ORIGIN OF PRONOUNS, AND THE FORMATION OF CLASSES OR GENDERS OF NOUNS.* By W. H. I. BLEEK, Esq., Ph. D.

I PURPOSE in the following paper to detail, in as few words as possible, the main results of the comparative grammatical researches which have led me to South Africa, and occupy me there.

1. The question which the South African languages appear to me mainly adapted to settle, is that of the original pronouns,—of the concord, and of the classification of nouns as based upon the use of pronouns.

2. To place this question in its true light, it is necessary that I should first state what I understand to be pronouns, or what I call true pronouns. In using the term "pronoun," I have found myself constrained to lay a stress upon its etymology, and to allow only those words or particles to be true pronouns which do nothing but stand in the place of nouns, *i. e.* which, without a meaning of their own, merely represent the noun, or nouns, for which they are used. In this sense, our so-called pronouns of the first and second persons are not true pronouns, as they always imply the notion either of a person speaking or spoken to. It is true that the particles indicating these pronouns are practically very much used in places where true pronouns can be employed; they are, however, not only theoretically distinct, but their origin is also quite different from that of the true pronouns. As such I regard only the so-called pronouns of the third person (*e. g.* in English "he, she, it, they," etc.), or more strictly speaking the pronominal elements which originally formed their essential parts. It will be objected that in English the pronoun *he*, besides its representative character, always implies that one person of the male sex is indicated, and similarly *she* a person of the female sex, etc.; but when we follow the history of these pronouns we shall find that this was by no means originally the case, and that it is only latterly that these sex-denoting meanings have, by a logical adaptation, been imparted to them. But this will become clear when we follow the origin and the development of true pronouns.

3. There must once have been a period in the history of language when such a thing as a pronoun did not exist. If a noun that had already been used was referred to, it had to reappear bodily. But even at that time it will have been allowable to represent a compound word by one of its constituent parts. We may rightly assume what in every language is a usual practice. Whenever the thought recurs to an idea which has been expressed by a composition of two or more words, it may be quite sufficient to repeat only one of these words, to which, however, by implication, the sense of the whole composite is attached. In fact, when it is known or can be assumed what is meant, one short word may suffice to indicate each one of a whole set of words compounded with it. Thus in English, the word *glass* is very frequently used alone, either for "spy-glass," "weather-glass," "looking-glass," "wine-glass," or any other compound formed with

the noun "glass," or it may simply indicate glass as a material. But although a noun can thus be represented by a small portion of itself—this is only the case, because this small portion when used separately, includes the idea of each of the more detailed composites, for which it stands as a representative. Similarly, instead of "boatman, fisherman, hangman, madman, washerman," etc., we can use the simple noun "man,"—not so much because it is a constituent part of the above nouns, but because each of the persons indicated by one of them is really a man. In fact the word "man" might stand for "soldier, tailor, beggar," etc., just as well as for any of the nouns compounded with it. There is nothing pronominal in this use of a part of a noun for its whole; yet, from this mode of indicating a whole compound word by one of its parts, pronouns appear in the first instance to have arisen.

4. As is well known, compound nouns become derivatives in consequence of the parts to be determined losing their meaning as separate words, *i. e.* becoming obsolete. There is no doubt that many of our present derivative suffixes, such as "-dom" (related to "doom"), and "-ship" (from the same root as "shape"), were originally used as independent nouns, having then a meaning when standing by themselves, just as the nouns "glass, man," etc., now have. At that time, of course, the original forms of *dom* and *ship* could quite as well be used respectively to represent any noun formed with either of them, as the above nouns ("glass, man," etc.), can now, when standing for nouns compounded with them. But, at the present moment, it is impossible for us to use the syllable *dom* for the purpose of representing a noun of which it forms a part, *e. g.* *kingdom*; nor can the syllable *ship* in *friendship* be used in a manner similar to that which is allowable with regard to the homophonous syllable in *steamship*. We can say, "Let us see the *steamship*; that *ship* is really a powerful *ship*; we like to see such a *ship*;" but we should be merely ridiculous if, in speaking of "friendship," we attempted to say "Friendship is an admirable *ship*, this *ship* is a beautiful *ship*, we like to see the existence of such a *ship*." Nor could we say *The king-DOM, our DOM, which DOM is the GREAT DOM, the DOM appears, we love the DOM*. Yet in the South African BÂNTU languages a construction like this actually exists, and the above English absurdity is only a literal translation of the Zulu sentence, u-BU-kosi B-etu o-BU-kulu BU-ya-bonakala, si-BU-tanda. (Our great kingdom appears, we love it.) Here u-BU-kosi "kingdom" is a derivative, and the syllable BU- has no longer any meaning of its own when standing by itself, although it is still used to represent u-BU-kosi, "kingdom," as well as all other nouns derived with BU-. There can be no question that this syllable (BU-), or a prior form of it, had originally an independent meaning, and could be used with such when standing by itself. Whilst becoming obsolete as a single noun, it has yet retained the faculty of re-

presenting all nouns compounded with, or more properly speaking, derived, with it. It has thus become a pronoun which can be used for all the nouns formed with the prefix *BU-*, and these nouns, therefore, constitute one class, which has its peculiar forms of concord, in all of which the pronoun *BU-* (originally identical with the derivative prefix of the nouns for which it stands) is the distinguishing element. Similarly, the syllable *KU-*, which, as derivative prefix in Zulu, is the formative element of all infinitives and of some other nouns, is also

used as pronoun for the nouns derived with it, and thus ¹u-²*KU*-³*tanda* ⁴*KU*-⁵*etu* o-⁶*KU*-⁷*kulu* ⁸*KU*-⁹*ya-bonakala*, ¹⁰*si* ¹¹*KU* ¹²*bonakalisa* ("our great love appears, we make it appear") is literally: ¹*the* ²*lov*-³*ING* ⁴*our* ⁵*ING* ⁶*which-ING* (is a) ⁷*great* ⁸*ING*, (the) ⁹*ING* ¹⁰*appears*, ¹¹*we* ¹²*make* ¹³*the* ¹⁴*ING*

¹⁵*appear*. In this case, the original meaning of the *KU-* (which as derivative prefix forms infinitives and a few other nouns, and as pronoun represents these infinitives and other nouns composed with it) is still quite clear; for although it no longer occurs as an independent noun, it has continued to exist as prefixed directive or preposition, with the meaning "to, from." There is no doubt that this preposition is used with verbs in the Bantu languages, for the purpose of forming infinitives, in an analogous way to that of the corresponding English preposition "to." Thus in the Zulu ¹*ngi-ya-ku-tanda* (²*I shall love*)

which is literally ¹*I* ²*go* ³*to* ⁴*love*, the *ku-* is merely used as a directive like the "to" in "to love;" but the Zulu infinitive has the faculty (which the English has not) of being constituted into a noun in which the prefixed directive becomes a derivative particle, and, as such, that part of the noun which used by itself represents the whole. Thus in *u-KU-tanda KU-mnandi*, "to love is sweet," the first *KU-* is used as a derivative prefix, to which the second *KU-* refers as pronoun.

5. This faculty of using one portion of a word to represent the whole—although the said portion, when independently used, possesses no meaning of its own—no longer exists in the more highly advanced languages*. But in many American languages the faculty of incorporation, as it is called, appears to be of a similar character. It is true that many instances of so-called incorporation reduce themselves merely to strong contractions, caused by the rapid pronunciation of a compound word. There remain, however, a good number of clear cases, in which we cannot escape the conviction that, in American languages, compound or rather derived words are frequently represented by one of their parts, which part, when standing by itself, has now no meaning of its own. But there is no regular system of representation here discernible like that which is met with in the South African Bantu languages,—and, therefore, the representative parts have pro-

* The satirical licence by which we can speak of a girl in her *teens*, studying the *ologies*, exceptional as it is, is of course different in its origin as well as in its precise use, to that representation of the noun by one of its parts, which we find in the South African Bantu languages.

perly no claim to be called pronouns, nor is any classification of the nouns hereby effected. On the whole, we can only consider this practice of so-called incorporation as the scanty relic of a former plastic condition of the language, in which a general and regular representation of each compound word by one of its parts was allowable.

6. Nor do any of the South African *Bantu* languages, with their regular system of representing the whole of a noun by one of its parts, exhibit this faculty of representation in anything like the vigour in which it must have existed in former more plastic periods of the language. From what we now see in these languages, we may rightly conclude that in prior stages the number of such representative elements must have been very great. When the great mass of the nouns of a language were derivatives, which had inherited the power of being represented by their derivative syllables, from a prior stage in which they were merely compound nouns,—the number of such representative particles of the nouns was probably as great as the number of the derivative particles of the nouns themselves. As the latter, however, like other grammatical portions of the language, are very liable to euphonic change, numerous cases of homophony would be produced between derivative particles that were originally distinct. By this, and by many of the derivative particles falling into disuse, the number of representative particles would soon be reduced, when once the power of treating new derivative particles as representative elements of the nouns had ceased. These processes, which it may have taken ages to accomplish, settled the number of representative elements of the nouns, *i. e.*, true pronouns, at a certain number. When this was once the case, the use of these latter would also be extended to those nouns which were not formed with derivative particles that could be used as representative elements. Here analogy would come into play; and they would mainly be represented by such pronouns as referred to subjects similar to them in meaning. Otherwise, they would have had no pronouns to represent them, and must always have been repeated when referred to.

7. The PRONOMINAL languages, as we call all those in which true pronouns, at first identical with the derivative particles of the nouns, thus exist, are divided into two classes, according to the original position of these derivative particles, *i. e.*, whether they stood at the beginning of the noun or at its end. In the first case they are called PREFIX-PRONOMINAL languages, in which, therefore, the *pronouns* are originally identical with the derivative *prefixes of the nouns*. This class includes the BANTU and GOR families. In the other class, that of SUFFIX-PRONOMINAL languages, the *pronouns* show an original *identity* with certain derivative *terminations of the nouns*. In this class we know as yet, for certain, only one large family, that of the SEX-DENOTING languages.

8. When the number of representative elements (and pronouns identical with them) was once fixed in the Pronominal languages, the general natural tendency was continually to diminish this number. The fullest of the South African BANTU languages shews sixteen (or perhaps eighteen) of these different representative elements of the

nouns, of which two or three are in a dying-out stage, being each used only for one or two nouns. In the *Kafir* and *Setshuana* dialects this number is already reduced to thirteen, and in the *Mpongwe* to ten. In the fullest SEX-DENOTING tongue (the *Nama* dialect of the *Hottentot* language) the number of such representative elements of the nouns is only eight, and one of these (that of the common singular) has disappeared even in the other *Hottentot* dialects, and has only, as yet, been met with in one other Sex-denoting language, viz., the *Khasi* (spoken in the Cassia mountains of Lower Assam).

9. The tendency towards easier pronunciation (that grinding force to which the smooth phonetic systems of modern languages are mostly due) not only affects the system of representation with regard to the number of the representative elements, and of the thereby constituted classes of nouns, but also has particularly strong effects upon the visibility of the concord in the different parts of speech. In the first period of the Pronominal languages, each word of a sentence could only clearly be connected with a noun, or referred to it, by having the representative part of the noun actually attached. Thus there was originally an identity of form between the pronominal elements which established the concord, and those derivative particles of the nouns to which they referred. The essential elements of each noun reappeared wherever anything referred to the noun,—and thus parts of the nouns were used as pronouns, which pronouns connected every other part of speech with the noun. When these true original pronouns came much into use, there must have been almost an omnipresence of them. Nothing that had the slightest reference to the noun can have been destitute of these pronominal elements. At first, as we said, they were perfectly identical in form with those parts of the nouns (the derivative particles) from which they drew their existence. But both derivative particles and pronominal elements were liable to change; and the position and surroundings of each would mostly determine the character of such changes. Probably in no language that we know of, are either the derivative particles of the nouns, or the pronouns referring to them, in the forms which they originally possessed. Yet, in many instances, the changes in the derivative particles and in their pronominal representatives have run so parallel, that there are only slight deviations and abbreviations perceptible in their different forms. Thus the *Kafir* derivative particle *KU*- has almost throughout the very same syllable as its corresponding pronoun. Only as article as well as in combination with the relative particle *a*-, the consonant of the pronoun *KU* has been dropped and *U* alone remains. Again the *Kafir* derivative particle *BU*- is frequently represented merely by its consonant *B* alone, and occasionally only by its vowel *U*. The same vowel is in other cases a representative of one of the two *MU*- derivative prefixes of the *Zulu* language. In the latter language, one of these two *MU*- prefixes has as its corresponding pronominal elements such discordant forms as *MU*-, *M*-, *U*-, *A*-, *-KE*-, *-YE*-, and *-GU*-. Taken in conjunction with other evidences, these apparently irreconcilable forms point to an original form *NGUA*. This *NGUA*- had, in its position as derivative prefix, already been smoothed down to *MU*-

at a period preceding the division of the present known South-African Bantu languages; for, the forms which this derivative prefix has in all of them are either this *MU-* itself, or mere abbreviations of, or euphonic changes from it. This *MU-* of the first personal class of nouns is, however, almost the only instance in the South African Bantu languages, in which the forms of the prefixes and pronouns are so different from each other that their original identity is no longer clearly visible.

10. Yet the comparative grammar of the South African BANTU languages abounds with instances where these representative elements, be it in their position as derivative particles (prefixes) of the nouns, or in their quality of pronominal elements, have been greatly varied and modified in their forms. Thus the *prefixes* of the nouns have been very frequently so reduced in form as to consist merely of one letter, and there are very few of them which are not, in one or other language, most generally elided. With some few of them, indeed, this falling off is of very frequent occurrence in most of these languages. In such cases (*viz.*, when the representative element in the noun, *i. e.*, its derivative prefix, has fallen off), the concord and class of the noun are not indicated by its own form, but merely by that of the pronominal elements referring to it. For instance in Tette, *fāra RI-kūru*, "a great voice," the noun *fāra* has no longer a derivative prefix to point out the class to which it belongs,—but the pronominal element *RI-*, of the adjective form *RI-kūru*, clearly shews that the noun to which it refers belongs to the 5th (*RI-*) class, the nouns of which were originally all formed with the prefix *RI-*, or with more ancient forms of the same prefix. The same adjective in Tette would have the form *MU-kūru* when referring to a noun of the 1st (personal *MU-*) class of nouns, *WA-kūru* to one of the 2nd (*WA-*), *Ū-kūru* to one of the 3rd (impersonal *MU-*), *I-kūru* to one of the 4th (*MI-*), *TSHI-kūru* to one of the 7th (*TSHI-*), *I-kūru* to one of the 9th (*N-*) class of nouns, etc.

11. On the other hand, the pronominal elements that bind the other parts of speech to the noun, are as liable as, and in many cases more liable to euphonic changes than those derivative particles of the noun from which they draw their life. In fact, the comparison of the South African BANTU languages furnishes us with numerous examples of cases in which these pronominal elements are worn to shreds, and with not a few in which they have been dissolved altogether,—be it by the pressure of surrounding elements, or on account of other reasons. The natural consequence of this is, that those parts of speech, from which the pronominal element has thus disappeared, lose the appearance of being bound by concord to the noun. Yet the impress of this connection is left upon the spirit of the language. There is an invisible tie still remaining from that once bodily reproduction of a part of the noun, by which the parts of speech were first brought into connection by the noun itself. This is, however, only true as far as regards the distinction of the parts of speech, produced originally by the different application of the pronominal elements; but when certain parts of speech are no longer connected by any apparent concord with the nouns to which they refer, the division of the

nouns into classes or genders ceases to affect these parts of speech, although it may still exist in the language. To render this perfectly clear, I should have to go into the question of the origin of the different parts of speech, and show how their distinction, which is essentially grammatical and by no means logical, was called into being by the rise of pronouns. It would indeed be easy to prove that a noun is that part of a sentence which can be represented by a pronoun, and, in the same manner, the other parts of speech can be distinguished in their true grammatical spheres of action. But these elucidations, which possess an importance of their own, would lead us too far from the main subject of this paper. I will here, therefore, in illustration of what I mean, merely detail the structure of the adjective. This part of speech was in the first instance constituted by the use of pronominal elements which referred it to the noun. Thus in Zulu, *u-MU-ntu o-MU-bi*, "a bad or ugly man," the root *-bi* (whence the adverbs *ku-bi* and *ku-bi*, "badly") is constituted an adjective by having the pronominal element *MU-* (here representative of all personal nouns formed with the derivative prefix *MU-*) attached to it. Instead of this *MU-*, we have to use other pronominal elements, when the adjective is to be referred to nouns formed with different derivative prefixes; as, for instance, we must say *i-SI-tya i-SI-bi*, "an ugly or bad dish;" *i-LI-tyi i-LI-bi*, "an ugly stone." But in every case in ZULU a pronominal element is necessary to connect the adjective with the noun, and truly to constitute such a part of speech. As, however, these pronominal elements, which in the first instance constitute the adjective a part of speech, are particularly liable to decomposition, the tendency is gradually to wear them away, and even to make them entirely disappear. Yet the position which they have given to the adjective as a distinct part of speech remains even where they themselves have ceased to be seen, and no concord any longer connects the adjective with the noun. An example from modern languages will easily illustrate my meaning. In English, the adjective is no longer linked by any apparent concord to the noun. Neither gender nor number is distinguishable in the English adjective; yet it is no less an adjective, and no less considered as belonging to the noun than, for example, the German, French, or Latin adjective, in all of which the concord is still more or less visible; e. g., German *ein schlechter Mann, schlechte Männer, eine schlechte Frau, schlechte Frauen*; French, *un mauvais homme, des mauvais hommes, une mauvaise femme, des mauvaises femmes*; Latin, *vir malus, viri mali, femina mala, feminae malæ*; compared with English, *a bad man, bad men, a bad woman, bad women*. But the English adjectives would not so clearly form a distinct part of speech, if at a previous period they had not been brought by concord into reference with the nouns. The distinction of gender and number as affecting the adjective is, however, quite lost, even in idea, to the grammatical conception of the English language.

12. As with adjectives, so also with other parts of speech. Their distinctness, as such, when once established, either by the accession of certain pronominal elements or of other grammatical particles, or

by both conjointly, is not lost to the language, even when these originally determining elements have themselves become invisible. This falling off of the pronominal elements and the consequent disappearance of the concord between nouns and other parts of speech, is to be remarked in progressive ratio as languages are exposed to change and become modernised. A comparison of a few of the most known European languages will at once prove the truth of this observation. If we take the Latin sentences, *Noster pulcher vir venit, videmus eum*, and *Nostra pulchra mulier venit, videmus eam*, the concord, as far as the gender is concerned, is apparent in the first, second, and last words of each sentence. The corresponding French sentences, *Notre bel homme vient, nous le voyons*, and *Notre belle femme vient, nous la voyons*, do not distinguish the gender in the first word, but in all those others where it is also visible in Latin. In the German, *Unser schöner Mann kommt, wir sehen ihn*, and *Unsere schöne Frau kommt, wir sehen sie*, the concord affects as many parts of speech as in Latin; but in the English sentences, *Our handsome man comes, we see him*, and *Our handsome woman comes, we see her*, only one part of speech (the last word of each sentence) is brought into agreement with the gender of the noun.

13. Leaving the circle of the INDO-EUROPEAN (or ARYAN) languages, we find in some other *Sex-denoting* languages (for example the SEMITIC) that also the forms of the verb are made to accord with the gender of the noun which is its subject.

14. Still more extensive is the reign of concord in the South African BANTU languages. Here, not only adjectives and verbs, as well as all sorts of pronouns, are made to agree with the noun, but even a noun, when used as genitive to another noun, is referred to the latter by some mark of concord.* Thus, in Zulu, *i-SI-tya S-o-M-fazi*, "the dish of the woman," and *u-KU-dhla KW-o-M-fazi*, "the food of the woman," *S-o-m-fazi* and *KW-o-m-fazi*, are both genitive forms of *u-M-fazi*, "woman," made to agree with the class (or gender) of the noun to which they respectively refer. This practice, of extending the concord to the genitive forms, is one of the features which gives the South African Bantu languages the appearance of being everywhere permeated by marks of concord.

15. While, in the previous paragraphs, we assign the gradual disappearance of the signs of concord to the inevitable action of phonetic decay, we must remember that there is another cause which may materially accelerate such a loss. When a language is adopted by a race heterogeneous to those who originally spoke it, it will generally happen that a great number of grammatical niceties are dropped, and that only what is practically most useful and necessary is retained. The poverty of the English language in forms of concord, particularly in contradistinction to that of its German cousin, is certainly, to some extent, to be ascribed to this cause. Nor can it be accidental that where, in the middle of Africa, the nations who speak Prefix-pronominal languages meet together with those using *Sex-denoting*

* A similar construction is also found, in certain cases, in some North African *Sex-denoting* languages, e. g., *Coptic*, *Hausa*, etc.

tongues, a great number of languages are found which are almost entirely destitute of the characteristic marks of concord peculiar to each of these classes of languages. Here, especially, many of the WEST AFRICAN tongues, which for other reasons we are fully entitled to reckon among the members of the BANTU family of languages, have hardly retained a vestige of that grand system of concords which is such a clear mark of common descent in the South African members of this family. In some African languages, this almost entire absence of any marks of concord forms one of the greatest difficulties in assigning to them their proper place in a classification of languages. The *Dinka* language, for example, spoken on the Bahr-el-Abiad or White Nile, offers in this respect particular difficulties; and it will probably require an intimate knowledge of some languages nearly allied to it before we are able properly to define its descent, and even to know whether it came originally from the Prefix-pronominal, or from the Sex-denoting languages, or had quite a different origin. This possibility of an absence of any of the remarkable characteristics of the concord (*i. e.*, the marks of classes or genders of nouns) in languages descended from those in which the concord has pervaded the whole structure, renders it particularly difficult to say whether such languages as, for example, those of the TURANIAN class, have to be considered as belonging to the PRONOMINAL formation of languages.

16. In the preceding remarks we have assumed, as a proven fact, that the system of concord by which one part of a noun was taken to represent the whole, is identical in origin with that of the genders of nouns as found in our languages. It remains now, not indeed to prove this identity—for to do this a short paper such as this would not suffice—but to elucidate how it is possible that a classification which is now purely logical, can have descended from one based upon the accidental meaning of the derivative particles.

The natural history of the African languages furnishes us with ample evidence to trace the different stages of this transition; and all its principal features and reasons lie clear before us. It is only with regard to a few minor points that we are still uncertain as to the manner in which they came into existence.

17. Firstly, the South African BANTU languages exhibit a system of concords almost entirely based upon the representation of each noun by a pronoun identical in its origin with the derivative prefix of the noun;—the representative elements of the nouns being in these and other prefix-pronominal languages originally at the beginning of the nouns. All the nouns which are formed with the same derivative prefix, are also, therefore, represented by the same pronominal elements, and have the same forms of concord, which are (as we said) established by the presence of these pronominal elements. Thus the nouns are divided into classes according to the derivative prefixes with which they are formed; the nouns with the same derivative prefix (and consequently with the same sets of pronouns) being in one and the same class. In this grammatical classification there is no intention of any logical division of the nouns. The extent to which

each derivative prefix is used for the formation of nouns, fluctuating as this is in different languages of this family, determines the range of meaning of each class; and this would be at first only exceptionally and almost accidentally coincident with any logical distinction. The only classes which in the Bantu languages clearly distinguish differences observed in nature are the two personal ones, *viz.* the first (*MU-*) and second (*BA-*), which are restricted to nouns of *persons*, the first in the singular, the second in the plural. Yet even here the classification is not wholly coincident with a logical division; for, all nouns of persons are by no means included in these two personal classes.

18. The restriction of these classes to nouns of persons, is probably, in the first instance, due to the meaning inherent in the derivative prefixes with which their nouns were formed; and the first prefix (*MU-*) may, when it was still used as an independent word, have originally possessed the meaning of "person," and the second (*BA-*) that of "people." This is perhaps, upon the whole, the most probable solution, although not a certain one, and, as a mere conjecture, we may add that the latter prefix (*BA-*) may only be a strongly abbreviated form of a reduplication of the first prefix, in its presumed original shape *NGUA* (*vide* § 9).

19. This brings us to a certain logical arrangement which has already affected most classes of nouns in the BANTU languages,—*viz.* that produced by the numerical value of the derivative prefixes. Most of these now have in the Bantu languages a definite numerical value attached to them, either as singular or plural; and each prefix generally corresponds to one other, either as its singular or plural. This is, however, not the case without many exceptions; for, several prefixes of the plural each correspond almost regularly to more than one prefix of the singular, in most Bantu languages,—and there are also prefixes of the singular number which each have two or more prefixes of the plural corresponding to them. One prefix (the 14th *BU-*) which is usually of the singular number, has in the *Otyihereró* language, besides its common abstract singular value, also a plural one, in which it corresponds to the 13th prefix (*KA-*) which is used in this language for the purpose of forming diminutives. This would be equal to our using such a suffix as *-hood* or *-ness* for the purpose of forming the plural of words ending in *-kin*, *e. g.* as if *manhood* were a proper plural for *manikin*. Other prefixes, again, possess no definite numerical value, and neither correspond as singular nor as plural to any other prefix.

Thus the derivative prefixes of the nouns in the South African BANTU languages have not yet arranged themselves in a strict order of correspondence, in which each prefix of the singular is exchanged for one certain other prefix when the plural of the noun formed with the first is to be indicated; but upon the whole there is a tendency towards such a regular arrangement.

20. There are two ways in which, before proper grammatical forms for the indication of the plural of nouns had come into use, this number could be originally distinguished in the language. Firstly,

nouns with a sort of collective meaning would have a kind of plural sense in comparison with the nouns indicating units of the same objects. Thus in our languages such nouns as "army, forest, fleet, people," might be used as a sort of plural for "soldier, tree, ship, person;" but the nouns which could stand in this kind of relation to each other would be few in number. A more regular manner of indicating the plural was the use of the process of reduplication. This primitive mode of forming the plurals of nouns is still in use in the *Bushman* tongue, and in some of the languages spoken in *North America, to the West of the Rocky Mountains*.

21. It is probable that the correspondences of singular and plural prefixes in the South African BANTU languages are originally due to both processes. If we see that the plural prefix *MI-* corresponds to the singular *MU-*, the plural prefix *PI-* corresponds to the singular *K(W)I-*, the plural prefix *TIN-* corresponds to the singular *NI-*, and the plural prefix *TU-* corresponds to the singular *LU-* it is difficult to believe that the plural and singular had no etymological connection with each other. Yet, on the other hand, there is no evidence that any distinct mark of plurality was added to the singular forms. But, taking all the probabilities of phonetic changes into consideration, it is not impossible that in most of these instances the plural prefix was originally, when still used as an independent noun, a mere reduplication of the singular. Now, however, both singular and plural prefixes have the power and position of simple derivative prefixes, and are each used as different representative elements.

22. But one, at least, of the plural prefixes, that of the 6th class (*MA-*), does not admit of the above explanation, and cannot have originated in reduplication. None but this prefix is used to correspond as plural to the 5th (*LI-* or *DI-*) prefix, from which its form is as dissimilar as possible. But it is also occasionally used to form plurals to several other prefixes, either replacing them, or being prefixed to them. In the latter case, however, only the *MA-* is considered as the representative element,—and the forms of concord merely refer to it, and are not affected by the other derivative prefix to which the *MA-* is prefixed. On the whole, it is evident that this prefix had, when used as an independent noun, originally a collective meaning, indicating a mass, a quantity, &c.; and in this sense it is still frequently used as the prefix of nouns which have no singular corresponding to them, particularly of nouns indicating liquids,—for instance, Zulu *a-MA-nzi* "water," *a-MA-futa* "oil, fat, butter," &c. How very ancient this meaning of the prefix *MA-* is, can be seen from the fact that the same (liquid) meaning is still inherent in its use as pronominal element in one member of the OCEANIC section of PREFIX-PRONOMINAL languages, the *Fiji*. (*Vide Comparative gramm. of South African languages*, p. 142 note, pp. 261 & 262.)

23. Also in the HOTTENTOT language, the most primitive of the DENOTING family, the numerical correspondence of the derivatives possessing representative power (which are here suffixes) has been effected in this double manner,—*viz.* by expressing it either by the reduplicated form of the singular, or by em-

ploying a collective derivative particle, in the place of one of the singular number. The feminine plural suffix *-TI* may well be explained as originating in a reduplication of the feminine singular suffix. Of the latter the present Hottentot form is *-S*; but a comparison of the kindred languages, particularly the Egyptian and Coptic, shows that this *S* is derived from a more ancient *T*. This is a change by no means unfrequent in Hottentot, and even the *t* of the feminine plural suffix, when used as pronominal element, is sometimes changed into *s*. There are some traces also of an *i* as the original vowel termination of the feminine singular suffix. It is also not quite impossible that the common plural suffix (*-IN*) may have originally been a reduplication of the common singular suffix, of which the present form is *-I*,—although the probabilities are against this explanation. With regard to the *Hottentot* language, it is particularly to be taken into consideration that the fewness in number of the derivative particles which can be used in Hottentot as representative elements, renders it probable that a great reduction in their number has taken place; and, therefore, that different suffixes have by homophony been thrown into one class (or gender) with one set of representative elements. This would render it still more difficult to trace the origin of the numerical correspondence of the derivative particles here, than it is in the Bantu languages. But I feel much inclined to say that it seems almost clear that the masculine plural suffix *-KU* cannot in any way be regarded as a reduplication of the masculine singular *-BI*; although the manner in which the second Bantu prefix *BA-* has been brought into probable relationship to the first prefix *MU-* (by means of a presumptive older form of the latter which is *NGUA-*) teaches us not to be too certain in our definitions of impossibilities. At all events, the HOTTENTOT dual suffixes *-KHA* for the masculine, and *-RA* for the common, cannot well be considered as originally anything but nouns implying a duality. We will not say that it is impossible that *-KHA* may have been contracted from a combination of a masculine suffix (either of the singular or plural) with the common dual suffix *-RA* (Wuras gives similarly *-S-a-RA*, a combination of the feminine singular with the common dual, as the *!Kora* feminine dual form),—but, for all the purposes of representation, *-KHA* is now a simple derivative suffix.

24. Whatever may be the origin of the numerical correspondence of the derivative particles with representative force in the HOTTENTOT language,—it is more strictly carried through than in the Bantu languages. Each suffix has a decided numerical value, either as singular, plural, or dual, — and corresponds regularly with this meaning to a certain suffix (or suffixes) of a number different from its own. The exceptions to this rule are few,—just sufficient to show that there are exceptions, in which *e. g.* the common plural suffix is used (instead of the masculine plural) as corresponding plural to the masculine singular. Another distinguishing feature of the Hottentot language is the possession of dual derivative particles, which, if they ever existed in the BANTU languages, must have been lost before the South African members of the Bantu family separated from each other; for, no traces of the dual are found in any of these languages.

25. The most peculiar feature, however, in the HOTTENTOT derivative suffixes, is their reference to the distinctions of *sex*. This is in so far the case, that in any noun expressive of a being in which *sex* can be distinguished, the suffix *-P* (originally *-BI*) indicates one male being, the suffix *-KHA* two males, and *-KU* several males; the suffix *-S* one female being, and the suffix *-TI* several females; again, *-I* any being (either male or female), *-RA* two beings (one male and the other female, or both females), and *-IV* several beings (without distinction of *sex*).

26. Now it seems, at the first glance, very easy to explain this, by supposing that in the first instance, the *-P*, for example, meant "man" or "male," the *-S* "woman," and so on. But we must remember that all the nouns in the HOTTENTOT language must be formed with one or other of the above eight derivative suffixes: and that the greatest number of the nouns of things in which *no sex* can be discovered are included in the so-called masculine and feminine classes. It would be preposterous to suppose that the primitive mind of the Hottentots, or of their ancestors, had imaged to itself everything either as male or female, or could have perceived differences analogous to the distinctions of *sex* in almost all objects and ideas whatsoever. This would be ascribing to them a poetic faculty of the highest order, such as in the very primitive condition of mankind we have no right to assume.

27. Besides this, when we inquire into the probable etymologies of the HOTTENTOT derivative suffixes of nouns, not one of them seems to have originally any meaning implying *sex*; and the meanings which the suffixes impart to nouns in which a difference of *sex* is not discernible, is frequently of so decided a character as to assign to these suffixes a distinct signification which could only with great violence be deduced from any analogy with the distinctions of *sex*. In many so-called masculine nouns in Hottentot, the suffix *-P* gives a sort of local meaning, etc.

28. There is, however, not the slightest need to assume that these suffixes were originally meant to express distinctions of *sex*. On the contrary, it is highly probable that the whole relation of the HOTTENTOT classes of nouns to the distinction of *sex*, arose from the circumstance that the nouns respectively indicating "man" and "woman" had been formed with different derivative particles (suffixes) possessing representative power. If the word for "man" were formed with one suffix (*-P* or *-BI*), and the word indicating "woman" with another (*-S*), then other nouns of each *sex* would be formed, with the same derivative suffixes, in analogy with these. When thus the majority of nouns indicating male beings were gradually formed with the one suffix in the singular,—this suffix would assume a masculine character; and, by the power of analogy, would be used whenever a single being of the male *sex* was to be indicated. In the same manner it would be with the so-called feminine singular suffix; and the plural and dual suffixes would have been influenced by their correspondence with those of the singular.

29. Similar processes have been at work in the BANTU languages, although they have not yet led to the same logical results as in the

Sex-denoting family, of which the *Hottentot* represents the most primitive known type. The third derivative prefix in the BANTU languages, of which the most primitive form that we can ascertain is *MU-*, has evidently originally a mainly local meaning, and is etymologically identical with the directive or preposition *mu-*, "in," which is found in several Bantu languages. This prefix is used in the formation of the common Bantu word for "tree, plant," *MU-ti*, and, in analogy with this noun, the prefix *MU-* has been used for the formation of the greater number of the names of trees and plants. Thus the prefix seems to impart to many of these nouns the meaning of "tree" and "plant," and this class of *MU-* nouns assumes almost the appearance of having special reference to this class of natural objects.

Again, in some BANTU languages, especially in *Kafir* and its nearest kindred, the same prefix *MU-* is also used for the formation of names of rivers, and thus in Kafirland, Natal, and the Zulu Country, the greater number of the names of the rivers belong to this third *mu-* class. Yet this must clearly have arisen from the fact that the name for "river" (*Kafir* *u-M-lambo*, *Setshuâna* *MO-lapo*, etc.), is formed with this prefix. The proper names of rivers are then, in the first instance, as it were, adjectives to the word for "river,"—and the prefix must really have had in them only the character of a pronominal element which referred these adjectives to the prefix of the noun. But the adjectival expressions having been elevated to the dignity of nouns, the originally pronominal character of the prefix is lost sight of, and it appears now almost to impart the meaning of "river" to these nouns, just as in the previous instance it seemed to give that of "tree" or "plant."

30. Also in the HOTTENTOT and other SEX-DENOTING languages, the classes (or genders) of nouns frequently exhibit, besides the power of indicating sex, a leaning towards other classes of natural objects,—a circumstance which is expressed in the doggerel verses of LATIN Grammars, *e. g.*, in the following German lines :—

"Die Männer, Völker, Flüsse, Wind,
Und Monat' Masculina sind."

It is, I believe, generally taken for granted, that the *Latin* names for *rivers*, *winds*, and *months*, are *masculine*, because, in the first instance, they were respectively adjectives to the masculine nouns, *fluvius*, *ventus*, and *mensis*. Nor can I see any reason to assume that the names of *men* and *nations* were not originally brought into one class in a similar manner.

31. But even were this otherwise, and were the original meaning of some of the derivative suffixes (used as representative elements of the nouns) in the first instance expressive of sex, yet, in this case, the formation with the same derivative suffixes of such a mass of other nouns in which *no* sex can be distinguished, could only be explained by the fact that two or more originally different derivative suffixes had (by euphonic changes) become homophonous, and had thus been combined into one. In any case, therefore, the presence of nouns in which *no* distinction of sex is observable, in the same

classes together with those nouns in which the class (or gender) determines the sex, is not to be accounted for by an original poetic faculty, whereby characteristics of sex were imagined to exist in everything. The German "table" (*der Tisch*) is not a masculine noun, nor is "bottle" (*die Flasche*) a feminine, because there is anything manly in the former, or womanly in the latter; but merely because the different grammatical classes (or genders) to which these words respectively belong have been brought into a certain reference to the distinctions of sex as observed in nature.

32. When, however, the sex-denoting idea had once attached itself in some way to the classes (or genders) of nouns, its shadow would also fall upon those other nouns in which no distinction of sex is naturally discoverable, but which were contained in the same classes together with the nouns in which the class (or gender) indicated the sex. In analogy with the latter, it was natural that the mind should begin to imagine that inanimate nature also was possessed of those instincts which exert so powerful an influence over the life of the more highly organised beings, and which especially shape the relations of human beings to each other. Thus the sex-denoting character of the classes of the nouns became the most powerful agent for the personification of all impersonal objects; and to the nations speaking such sex-denoting languages, the whole world would be gradually filled with beings which assumed to their minds some mysterious human-like relations towards each other. The poetic faculty, hereby engendered, was in the first instance the source of fables and myths, and through the myths, and the religious conceptions thereupon based, it exerted the most intense influence upon the sex-denoting nations, who were thereby lifted from the primitive ancestor-worship to a conception of abstract objects of worship, which led them to a theology ever more and more ideal. It awakened interest, also, in all the objects of nature, and incited the mind to a study of their relations to each other; and thus proved the greatest stimulus which the study of science could have had, before the mind had become aware of the real importance of scientific inquiries, or of the magnificent results to which they lead. Thus poetry, theology, philosophy, and all branches of science have been, if not called into existence, at least very strongly stimulated by this structural peculiarity of the language. (*Vide* my "Preface" to the treatise *On the Origin of Language*.) All nations who have made themselves in any way conspicuous in the exercise of these higher faculties of humanity either speak, or used to speak, SEX-DENOTING languages. We need only mention the names of such nations as the *Egyptians*, *Babylonians*, *Phoenicians*, *Arabs*, *Indians*, *Medes*, *Greeks*, *Romans*, *Teutons*, with all their kindred. The languages of all of these belong to the SEX-DENOTING family. The only apparent exceptions are perhaps the *Chinese* and *Japanese*. But how far they are real exceptions I am unable to say; particularly as we do not as yet know for certain whether their languages may not have descended from sex-denoting mother tongues. One, at all events, of the members of the SEX-DENOTING family—the *KHASI* (spoken in the Cassia mountains of Lower Assam)—has very Chinese-like features.

33. But the deficiencies of Chinese civilisation, and their national faults of character (apparently arising from a want of the higher imaginative faculty) are to us a new proof how much men need that poetic stimulus which the ancient structure of our languages has given to our minds. The thirst for science must already very strongly have seized upon the spirit of a nation when it can do well without that lever which the *sex-denoting* form of language affords to the mind. The more logical arrangement which some Northern TEUTONIC nations (particularly the *English*) have adopted, by removing all nouns in which *sex cannot* be distinguished from the masculine and feminine *classes* (or genders), has its undoubted advantages. But it is, perhaps, well that these nations are in continually increasing intercourse with others, whose languages still supply them (by the almost enforced personification of all objects) with an involuntary mental stimulus, which, although it may frequently lead them into dream-land, as often raises them to higher conceptions.

34. I have here assumed as a fact that the languages of the most civilised nations of the world have derived their *sex-denoting* character from the same source as the HOTTENTOT language. The proofs hereof lie in the original identity of their sex-denoting determinatives, i. e., their signs of gender, which occur either as terminations of the nouns, or as pronominal elements. A rapid glance at a few of the most prominent points of comparison will probably be welcome.

35. Now, it is first to be noticed, that the *common singular* gender has apparently disappeared in all known SEX-DENOTING languages, excepting in *Hottentot* and *Khasi*. Other reductions, of various kinds, in the number of the genders (or classes) have also taken place in the different sex-denoting languages.

36. Thus the COPTIC language possesses only three genders (or classes), viz., masculine singular, feminine singular, and common plural. In the *singular* the nouns of this language have almost lost all terminations indicative of the gender (or class); although, in ancient EGYPTIAN, *-T* was still generally the termination of nouns in the *feminine singular*. As pronominal elements of this gender, we find in COPTIC *T-*, *TH-*, and *-S*. We identify these with the HOTTENTOT *-S* or *-SI* of the same gender, as easily as we identify the COPTIC pronominal elements of the *masculine singular* *P-*, *PH-*, and *-F*, with the Hottentot *-P*, *-B*, and *-BI*.

37. The most usual termination for the *plural* of nouns in COPTIC (of still more frequent occurrence in old EGYPTIAN) is *-U*. This occurs also as one of the forms of the COPTIC pronominal elements for the *common plural* used only in certain positions, whilst in other positions the forms *SE* (used only as subjective pronoun of the present tense and of the first future in the Memphitic and Thebaic dialects, and for the subjunctive in the Thebaic) and *N-* (in demonstrative pronouns and as article) take its place. It appears to me probable that three originally distinct pronominal elements are here used (in certain definite positions) for the one *common plural* gender, and that the COPTIC *U* corresponds to HOTTENTOT *-KU* (masc. plural), COPTIC *SE* to HOTTENTOT *-TI* (fem. pl.), and COPTIC *N* to HOTTENTOT *-N* (common plural).

38. The *dual* does not exist in the COPTIC language; and I may as well remark here that the SEMITIC and ARYAN *dual* forms seem to be mainly somewhat elongated plural forms. It is not impossible that this elongation is in the first instance due to an infixed *-A-*, as representative of one or both of the Hottentot dual terminations *-RA* (dual comm.) and *-KHA* (dual masc.)

39. The SEMITIC languages have retained the masculine plural and feminine plural as distinct genders (or classes). The common plural gender (or class) is, however, extinct, as such, in the Semitic languages, but its forms have been used to distinguish the plural of the two sex-denoting genders. This help was the more wanted, as in the Semitic languages the singular and plural forms of the determinatives of each gender had frequently become homophonous.

40. The homophony is, in this instance, caused by the mollification of the sign of the *masculine singular*, which from the harder linguals *P* (Hottentot and Egyptian), *PH* (Coptic), *B* (Hottentot), and *F* (Coptic),

has been liquefied in SEMITIC into *-W*, *-Ū*, and *-Ō*. The forms of this gender (the *masculine singular*) have hereby become similar to, and sometimes even homophonous with, those of the original *masculine plural*, the termination of which, in Semitic, has become *U* (as in Coptic), from the more ancient form *-KU*, as preserved in Hottentot. This *masculine plural* termination is now, however, only used to indicate the subject of the verb, and it has retained, in this position, the exclusive *masculine* meaning in all the older Semitic dialects, viz. *Ethiopic*, *Arabic*, and *Aramaic*,—whilst the more modern dialects (such as *Hebrew* and *Amharic*) have extended the use of this plural termination, in the perfect tense, over both genders. But this is evidently a comparatively modern innovation, although older than the language of the Old Testament.

41. The *masculine singular* termination has disappeared in the SEMITIC languages, at the end of the nouns, and also where it must formerly have stood to indicate the subject of the verb, in the perfect tense. The soft nature of this termination is a sufficient explanation for this circumstance. It is now mainly visible in the Semitic dialects merely in emphatic pronouns and as possessive and objective suffix.

42. The stronger character of the termination of the *feminine singular* (which is *-TH*, *-ATH*, *-ĀTH*, or *Ā* in the SEMITIC languages) has caused it to be more frequently preserved than that of the masculine singular. Its identity with the terminations of the same gender in Hottentot (*-S*) and Coptic (*-T*, *-TH*, and *-S*) is as unquestionable as that of the SEMITIC *feminine plural* (*-ĀTH*, *-ŌTH*, and *Ā*) with the same Hottentot termination *-TI*.

43. The evident similarity between the *singular* and *plural* forms of the two genders (or classes) in the SEMITIC dialects, explains to us how it arose that the pronominal elements, when used as *prefixes*, have in these languages only one form for each gender, which must

serve both for singular and plural. This is *TH-* for the *feminine*, and *Y-* for the *masculine*,—the latter being undoubtedly a palatalised *W*, in which semi-vowel both the singular plural and the *masculine* signs of gender would have combined. In order, however, that the number may be seen, the Semitic languages have, in addition to the above prefixes indicative of gender, used at the end of the verb, certain distinguishing marks for the plural number.

44. Also in the SEMITIC *suffixes* the *plural* is frequently not sufficiently distinct from the singular, and, on this account, the Semitic languages seem to have made use of the common plural termination, and to have superadded to it that of the masculine or feminine, either of which is then, however, elided. But the masculine and feminine signs of gender have respectively left their impress upon the nasal of the common plural termination, and the labial of the *masculine* is still visible in the *-M* which is now used as pronominal element for the *masculine plural*. Similarly, the dental nasal *-N*, as the present pronominal element of the *feminine plural*, is in conformity with the dental consonant (*-TH*, etc.) by which the *feminine* is generally indicated. The nasal here is evidently identical with the HOTTENTOT *-N* of the *common plural*, which we have also seen in the COPTIC language. It is, again, evidently identical with the ending of *masculine plural* nouns in the SEMITIC dialects, *-AN* (*Ethiopic*), *-UN* (*Arabic*), *-IN* (*Arabic & Aramaic*), or *-IM* (*Hebrew*). It is not improbable that here, also, the *common plural* termination may have originally been superadded to that of the *masculine plural*, although the latter, in some of these terminations, has not even left a trace of its presence.

45. That we are right in our explanations of the Semitic plural terminations, is most clearly proved by comparison of a language, which although it is not one of the Semitic dialects, yet evidently stands in a nearer relation to them than the Egyptian or the Indo-European (or Aryan) languages do. In the BERBER or TEMASHIRT the homophony between the original *singular* and *plural* signs of each gender has rendered them so wholly insufficient to indicate the number, that the original *common plural* sign has been everywhere superadded to them; and we can still see here, in actual combination, the signs of the masculine and particularly of the feminine gender with that of the common plural.

Thus we find, besides plurals of nouns ending in the different forms of the *common plural* (*-N*, *-EN*, *-IN*, *-AN*, *-A*, and *-U*), also those in which the *masculine* *-U* or *-W* precedes this termination (as *-U-EN*, *-U-N*, *-U-AN*, or *-A-U-N*), and others in which the same is the case with regard to the feminine *-θ** (as *-θ-EN*, *-A-θ-IN*, etc.). Still more striking are the *plurals* of the pronominal elements. Here the *masculine* form has indeed lost the sign of gender, nor has it even changed the nasal (*-N*) of the common plural to *-M*, as in *Semitic*;

* *θ* is, according to Lepsius' *Standard Alphabet*, to be pronounced like English *th* in "think."

but the feminine has retained the *feminine* -*T* after the -*N*; and thus -*NT* as *feminine plural* termination in BERBER proves the way in which the SEMITIC -*M* and -*N* have respectively become *masculine* and *feminine plural* terminations.

46. In BERBER, as in Semitic, the *masculine* terminations of nouns and adjectives, and the same when indicating the subject of the verb in the perfect tense, have disappeared, whilst the *feminine* ones (-*θ*, -*T*, -*S*, -*A*) have usually retained their place. The sign of the *masculine* gender occurs in BERBER as pronominal element mainly in a prefixed manner, and has then the forms *W*-, *U*-, *Y*-, and *I*-. In the *Kabyle* dialect we have particularly to remark the hardening of this pronominal element, when used as an article after the nasal of the *prefixed genitive particle*. The latter (the *genitive particle*) usually has in KABYLE the forms *n*-, *ne*-, *en*-, *in*-, or *a*-, and in other Berber dialects the forms *an*- and *na*-, in Hottentot *ā*- (i. e. nasalised *a*-), in Hausa, Egyptian, and Coptic *n*-, and in Ethiopic *a*-. But before the *masculine* article, which is generally hardened by the influence of the originally preceding nasal of this *genitive particle*, the latter itself is dropped, and thus *BU*-, *GI*-, and *I*- appear as *genitive* forms of the prefixed *masculine* article, by the side of the *feminine* *ne-T*-, or *en-T*-.

47. Allowing for the homophony of the singular and plural marks of gender in BERBER, their original identity with those of the sex-denoting languages already referred to, requires no proof. Nor is it difficult to see that also in the other sex-denoting languages of Northern Africa (e.g., the HAUSA, the GALLA, or ORMA and its kindred), the very same signs of gender recur that have been noted here. But it would only tire you if I entered upon them in detail. I will, therefore, merely say that it is not quite clear that GALLA, for instance, can claim as near a relationship to the *Semitic* dialects, as we vindicated in the case of *Berber*. In GALLA the signs of gender have mostly been worn away; and that of the *masculine singular* does not appear anywhere. The *feminine singular* termination -*TI* or -*T* has, besides, a *collective* meaning, which renders it liable to be also used when the *plural* is to be indicated. It is, therefore, probable that the original *feminine singular* and *feminine plural* classes are now both represented by this one termination, although, at the same time, we must not forget that even in the HOTTENTOT language the *feminine singular* has sometimes a *collective* meaning, so that in the *Nama* dialect, for instance, *gu-S* may mean either simply "a ewe", or "a flock of sheep". In the pronominal elements which, in GALLA, form the terminations of the verb, a *common plural* gender only exists, which has, however, two perfectly distinct forms, one in -*U* (originally evidently a *masculine plural*=Hottentot -*KU*, Semitic -*U*, etc.), and one in -*ani*. The latter is clearly the original common plural termination (Hottentot -*IN*, etc.) in a fuller and probably more original form. In this use of the signs of originally different plural classes for one common plural, the GALLA agrees with the *Coptic*.

48. The position of the original signs determining the gender of the nouns in the INDO-EUROPEAN (or ARYAN) languages was between the base and the case-terminations. Here they had to bear the

pressure of both, and could combine with either, or be entirely suppressed. It is, therefore, not surprising that, even where they have still remained visible, they have not been recognised by those who only compared the Indo-European (or Aryan) languages with each other. Here the mere Indo-European scholar is in the same position as the classical grammarian who, before his eyes were opened by the comparison of the other Aryan languages, attempted to obtain a clear idea of the systems of conjugation or declination in Greek and Latin. Yet, when the light of comparative Indo-European grammar had once brought order into the apparent chaos of irregularities and exceptions which the Latin and Greek grammars seemed until then to offer, it was not difficult to show, even from the facts brought forward by the old classical grammarians, how fully the views established from a comparative standpoint were borne out. Although, therefore, our perception of the original signs of gender in the Aryan languages is gained by a comparison of those of the other sex-denoting languages,—yet, the proofs in support of our theory have been mainly furnished by the very grammarians who themselves stoutly maintain that the Indo-European languages are autogenous, and are not akin to the Semitic or any other circle of languages, and who even go so far as gravely to state that they clearly perceive that in an older period of the Indo-European original language (“*Ursprache*”) the gender was without any indication, and that it was only distinguished in the nouns by secondary means and in the course of time. (Schleicher’s *Compendium der Vergl. Gramm. der Indogermanischen Sprachen*, p. 417.)

49. In discussing the question of the origin of gender in the ARYAN languages, the mind has first to disembarass itself of the very common opinion that the original signs of gender have anything to do with such terminations as English *-ess*, or German *-inn*, etc., by which the female sex is distinguished in certain nouns of persons. The secondary origin of these terminations is quite clear. They have nothing to do with those primary signs at first indicatory of the classes or genders into which all nouns were divided.

50. Firstly, it is to be remarked that the ARYAN languages, in their oldest recorded forms, seem to differ from the neighbouring languages especially in this—that the *plural* of the nouns is *not* indicated by any particular sign intercalated between the base and the case-terminations, but is made perceptible by the use of different case-terminations, or by particles affixed to them. This proves to us that, as regards the sign of gender in the ARYAN languages (which, as we said, must be sought between the base and the case-terminations), the two numbers, *singular* and *plural*, must already have *coalesced*, just as we have seen to be the case in *Berber*, and even sometimes in the *Semitic* dialects.

In the case of a common origin of the ARYAN and the other sex-denoting languages, it would, therefore, be most probable that the ARYAN marks of gender would be found to have forms similar to those of the languages in which such combinations of the two numbers of each gender were most readily effected. This directs us mainly to a comparison with the *BERBER* and *SEMITIC* languages; and *primâ*

faciè we may assume that the ARYAN signs of gender are not unlike those met with in these languages.

51. Here it must first be remarked that in SANSKRIT, GOTHIC, and LATIN very few nouns with bases ending in *-U* are *feminine*, and that in SLAVONIC (and I believe also in LITHUANIAN) they are *all masculine*. Although in some of these nouns the *-U* may really belong to the base (as it must do in the case of the few *feminines*), yet, in some we may surely consider the ending *-U* as the original mark of the *masculine* gender. It is further to be noted that in LITHUANIAN (which is well-known to be, in some respects, the most ancient Aryan language, although a still living one) *all masculine* nouns have in the dative singular the case-termination *-U-i*, in the instrumental sing. *-Ū*, in the nominative, accusative, and vocative dual *-U*, in the accusative plural *-Ū-s*, and in the locative plural *-Ū-se*, whilst the *feminine* nouns in *none* of these cases show a *-u*. It is true that the Sanskritists explain this *-u* as derived from a former *-a-*; but it is certainly extremely remarkable that the LITHUANIAN *masculine* case-terminations should shew such a predilection for that vowel which, in the case of a common descent of the Aryan and the remaining sex-denoting languages must have been the original ARYAN sign of the *masculine* gender. And, if this be so, it also explains, at once, why in OLD HIGH GERMAN the instrumental singular can only be formed from *masculine* (and *neuter**) nouns; for, its termination *-U* contains nothing but the sign of the *masculine* gender, after which (just as in the same case in Lithuanian) the case-termination has been elided.

52. We further perceive the mark of the *masculine* gender in the intercalary *-V-* (*-OV-* or *-EV-*) which intervenes between the case-terminations and the bases, in Slavonic nouns; but which is, in all Slavonic dialects, only met with in the *masculine* gender.† The predilection for consonants in the Slavonic languages probably explains why they have here a labial consonant in place of the vowel which is the common mark of the *masculine* gender in the other ancient Aryan languages.

53. Having thus (as we believe) discerned the *U-* (or *V-*) as ARYAN determinative of the *masculine* gender,—identical with BERBER *W*, SEMITIC *-W*, *-Ū*, *-Ō* (masc. sing.), and *-Ū* (masc. pl.), COPTIC *-F*, *P*, or *PH* (masc. sing.), and *U* (comm. pl.), and HOTTENTOT *-P*, *-B* (masc. sing.), and *-KU* (masc. pl.),—we expect to be able to find similarly clear traces of the usually more tenacious mark of the *feminine* gender.

54. Here it has already been remarked by Schleicher (*Compendium*, p. 419) that the abstract bases of nouns in *-TI* belonged almost exclusively to the *feminine* gender, in the older periods of the ARYAN

* The *neuter* is, at first, in the ARYAN languages, a mere variation of the *masculine* gender. (Vide below, § 58.)

† Vide Schleicher "Ueber *V* (*-OV-EV-*) vor den Casus-Endungen im Slavischen." In "Februar-Heft," 1852, der "Sitzungs-berichte der philos.-histor. Classe der Kais. Akademie der Wissenschaften."

original languages. His explanation, that this fact is connected with the function of such nouns, is, I confess, not clear to me. But, however this may be,—is it, for instance, possible to regard it as a mere coincidence that in LATIN all derivatives ending in *-t-U* should be *masculine*, and those in *-t-AT* (Greek *-τητ*) *feminine*? Let us take, for example, two such nouns as *æstus*, “the heat”, and *æstas*, “the summer”, of which the respective bases are *æs-t-U* and *æs-t-AT*,—why is the first a *masculine*, and the second a *feminine*? For no other reason, we answer, but because the *-U* ending the base of the first is that sign with which, in the ARYAN languages, *masculine* bases of nouns were originally formed, whilst *feminine* bases were indicated by a termination of which *-AT* is one of the fullest forms, identical with SEMITIC *-TH*, *-ATH*, *-ĀTH*, *-Ā* of the feminine singular, and *-ĀTH*, *-ŌTH*, *-Ā* of the feminine plural, with COPTIC *TH*, *T* and *-S* of the feminine singular (and, perhaps, *SE* of the plural), and with HOTTENTOT *-S* or *-SI* of the feminine singular, and *-TI* of the feminine plural.

55. The same terminations of the bases also distinguish the gender in GOTHIC *mag-U-s** (the Celtic *Mac*), “a boy,” and *mag-ATH-s*, “a virgin.” The latter noun is identical with German *Magd* and our *maid*: and thus in the ending consonant *-D* of these two modern nouns, the original distinctive mark of the gender has been still preserved.

56. The change of the original *tenuis* into a *media*, which we observe in these last-named nouns, is, however, as Bopp has shewn, very frequent in GREEK and LATIN. We believe, therefore, that we are right in assuming that the *T* of the *feminine* mark of gender will also sometimes have undergone, in these languages, the change into *D*. In this case, it is clear that it is not without reason that the bases of so many *feminine* nouns in GREEK end in *-a-δ* and *-i-δ*; and one is no longer obliged to believe with Bopp (*Comp. Grammar*, §. 119 and 126) that the *δ* is herein superfluously added. To give an example, the GREEK *feminine* *μῆτι-δ* (nomin. *μῆτι-s*) “wrath” (in which, however, the determinative *δ* of the gender is frequently dropped) appears to differ from the SANSKRIT *masculine* *many-u* “wrath, etc.,” only by its different sign of gender. Similarly, the LATIN *feminine* base *pecu-D* (nom. *pecu-s*), “a sheep, a head of cattle, &c.,” is distinguished from the *masculine* and *neuter* *pecu* (Sanskrit *paṣu*, Gothic *faihu*, German *Vieh*), “cattle.”

57. We have already stated that the position of the marks of gender is, in the ARYAN languages, between the case-termination and the base of the noun; but we have now to add, that certain particles are sometimes interposed between the marks of gender and the case-terminations. One of the most common of these additional particles is an *-a*, which seems originally to have had the value of a relative particle, and is, as such, already met with in *Hottentot* (*Compar-*

* From the *masculine* base *magu*, the Gothic *feminine* *mav-i-s*, “a girl,” seems to be derived by a secondary sign of gender.

Gramm. of S. Afr. Lang., §. 548 and 549). This particle combines, in the ARYAN languages, with the marks of gender. When affixed to the Aryan original sign of the *feminine* gender, -AT- or -ATI-, this -a is contracted with it to -Ā; whilst the masculine -U- (or -V-) is either simply suppressed before the -a (as always in SANSKRIT and GOTHIC, and occasionally in GREEK and LATIN),—or it is, by the influence of the -a, changed into -O-, after which the -a itself disappears. The latter (the transmutation into -O-) is generally met with in GREEK and LATIN. This is to me the most probable explanation of the base-terminations of the nouns belonging to the so-called first and second declensions. In very few of the nouns of these declensions (or of those of the so-called -a bases), can the -a have been radical. There are many bases of nouns which are declined, either with or without this intercalated -a; and I think that in some, at least, of these the original force of the -a can still be felt. That it is particularly common with adjectives, is perfectly in keeping with our explanation. It is remarkable how the distinctive use of the -a is still perceptible in LATIN, even in the declination of foreign nouns in -es,—for instance, *Heraclid-es*, which, as the proper name of a person, is declined without the -a (gen. *Heraclid-is*, etc.), but which when it designates merely the offspring of Heracles takes the -a, as *Heraclid-a-e*, gen. from *Heraclid-e-s* or *Heraclid-a*.

58. The ARYAN are distinguished from those other sex-denoting languages which we have already mentioned by the possession of a *neuter* gender. This seems in the first instance to have been merely a variation of the *masculine* gender. Part of the nouns of this gender appear to have been, by means of different terminations in the nominative and vocative (and sometimes also in the accusative), formed into a separate class. The actual mode of proceeding by which this new gender was acquired has not yet been clearly ascertained; but I think that we may learn something with regard to this from the manner in which, in comparatively modern times, the DANISH language has formed a second *neuter* gender, to which it has transferred all those nouns which were in the *masculine* and *feminine* genders, but in which no sex could be distinguished. Nor must we forget that the DRAVIDIAN languages (spoken mainly in the south of India) possess a *neuter* gender, which has here at least as wide a range as in the most logically arranged of the ARYAN languages—i. e., the *English*. The distinctive marks of the *neuter* gender in the DRAVIDIAN languages even agree with those of our own languages, to so great an extent, that it does not appear probable that these two circles of languages (which are the only ones known to possess this kind of threefold gender, i. e., masculine, feminine, and neuter) should have developed the *neuter* gender quite independently of each other. The DRAVIDIAN languages, however, have not as yet been proved to belong to our own SEX-DENOTING family of languages; and although it is not impossible that they may be shown ultimately to constitute a member of this family, yet it may also be that at the time of the formation of the ARYAN languages, a DRAVIDIAN in-

fluence was exerted upon them, to which this, among other similarities, is due.

59. The ARYAN *neuter* gender has evidently *no* connection with the *common singular* of the HOTTENTOT and KHASI, of which the sign is *-I*. But it is not improbable that the termination of the *nominative* (accusative and vocative) *plural* of the ARYAN *neuter* gender is originally identically with the HOTTENTOT *common plural* termination *-IN*, of which a fuller, and probably a more original, form occurs as pronominal element in GALLA, *viz.*, *-ANI*. A form like this would alone explain how it came to pass that in common SANSKRIT the *nomin.* (accus. and voc.) *plural* of *neuter* nouns ended in *-NI* (dual

in *-NI*), and in the same case in the VEDA dialect in *-Ā*, and in other ARYAN languages (*Greek, Latin, Gothic*) in *-A*. Whilst in the latter instances we must suppose that the ending syllable *-NI* was thrown off, in common SANSKRIT the initial vowel of the termination *-ANI* seems to have disappeared. That the *n* does originally belong to this affix, is proved by the occurrence of this nasal in consonantal bases as an infix. The *common plural* meaning, which in this case the ARYAN *neuter plural* gender must primarily have had, is still, to some extent, preserved in the GOTHIC language. (*Vide* V. D. Gabelentz et Loebe, *Grammatica*, § 191, I. 1 ; § 208, 3 ; § 209, 4, 6.)

60. The declination of adjectives and pronouns at the earliest period of the ARYAN languages was mainly the same as that of the nouns, and the marks of gender were also the same, although they had in the adjectives and pronouns merely the character of pronominal elements. The evidences of this identity are still clear, although, of course, the original marks of gender, here, as well as in the nouns, have frequently entirely disappeared. The repetition of the case-terminations which the concord in the Aryan languages frequently requires, is not without parallel in some other Pronominal languages.

61. The ARYAN differ from the other Sex-denoting languages, in *not* making the form of the verb to indicate in any way the gender of its subject. All that the concord requires from the Aryan verb, is a distinction of the numbers and persons. In the third person (and we can here only concern ourselves with the third person) the most ancient termination for the singular seems to be *-TI* and for the plural *-NTI*. It appears to me probable that the *-TI*, common to both endings, is a particle which had originally nothing to do with either indicating the person or marking the concord, but which had some other use, most likely that of an auxiliary verb, and which may even be identical with the Hottentot verb *di* "to do." What confirms me in this view is that we also find occasional traces of this ARYAN verbal particle *-TI* or *-T* in the terminations of other persons. In fact, I am inclined to ascribe to it originally a most extensive use in the formation of the primitive Aryan verb. In this case, the *-N* distinguishing the *plural* from the singular can only have been the pronominal element of the *common plural*, which alone has been able to retain its ground before this verbal particle *-TI* ; whilst the other signs of gender, the

masculine *-U-* and the feminine *-T-* (or *-ATT-*) would naturally be obliterated in their position between the base of the verb and the affixed verbal particle. Thus the distinction of the gender in the terminations of the verb would be lost in the ARYAN languages, although it probably existed in them at first, as well as the distinction of persons in the plural, which latter is now, for example, in English no longer marked by different terminations.

62. In these researches into the origin of gender and concord in our own languages, it must be remembered that we had to enter upon a hitherto untrodden path. Aware how shifting is in many ways the nature of the ground on which we had to tread, we tried only to choose what appeared to promise the most solid footing. Yet it may be that in more than one instance we have made a wrong step. There may be details of explanations and identifications which further research will prove to be erroneous. But the great principles which underlie the structure of the PRONOMINAL languages are too plainly visible to be misunderstood; and with regard to our own languages (the ARYAN or INDO-EUROPEAN) the following laws may be considered as fully established:—

[1]. The classes or genders in the SEX-DENOTING (as well as in other Pronominal) languages originally depended, not upon the meaning of the nouns, but upon their representative particles, which were here (*i. e.*, in the Sex-denoting languages), primarily at the end of the nouns.

[2]. These classes (or genders) were from an originally large number, gradually reduced, until in the ARYAN languages they were mainly two,—one with the representative element *-U*, which, as including all nouns indicating male objects, is called the *masculine class*, and the other, with the representative element *-ATT*, which is, for a similar reason, named the *feminine class* (or gender). The *neuter class* appears to be a later development, into which, however, an original common plural gender (with the termination *-ANI*) may have been incorporated.

[3]. To these endings indicatory of the gender, the case-terminations were affixed,—and, through the pressure of the latter, the original marks of gender have frequently been obscured, or suppressed, even in the most primitive of the known ARYAN languages.

[4.] The concord was, in the first instance, everywhere due to the presence of these representative elements of the nouns in their pronominal character. It is they which really bound the adjective to its noun; it is they which primarily constitute the very essence of all our true pronouns, although the weight of the elements (demonstrative, relative, and other particles) with which they have been combined, has frequently rendered them invisible. Wherever any sort of concord makes other parts of speech accord with the noun, it is they which are the real original factors of such a concord; and although they are almost entirely lost to sight in some of our modern languages, the essence of our grammatical structure is due to them.

While endeavouring to account for the transformations by systems like those of the most advanced languages (with their

almost logical arrangements) have descended from such systems as are still to a great extent preserved by some of the most primitive tongues,—I have only been able to glance briefly at the proofs by which my explanations are established. There are, besides, numerous important points, incidental to these questions, which have not even been touched upon. For example, the distinction of gender in the so-called pronouns of the first and second persons, which is found in many Sex-denoting languages, has not been so much as alluded to. Its explanation is perfectly clear; but it would be impossible to do it justice in two or three words. Nor have I been able to point out the relation in which the KHASI stands to the other SEX-DENOTING languages; nor even to allude to those sex-denoting languages in different parts of the world (especially in *South America*) which have *not yet* been proved to be members of our own great SEX-DENOTING family. In fact, the subject of this pronominal representation is one which affects the innermost life of the language, and upon its various modifications, as traced in different languages, it appears that the natural system for the classification of languages must mainly be based.

DISCUSSION.

MR. HYDE CLARKE said it would be exceedingly undesirable that a paper of such importance should pass without comment. It is, indeed, the misfortune of contributions, which develop facts altogether new, and not known to the general world, that they often escape notice at the time, and not meeting with discussion are for a while relegated to oblivion. He bore testimony to Dr. Bleek's labours, from having entered on the same ground of observation and research, but by a different path, and he had prepared to lay them before the Society last session. Dr. Bleek's discoveries, however, were applied to topics of Semitic and Indo-European grammar, with a completeness and detail far beyond anything he had proposed. He considered Dr. Bleek's paper as a true contribution to what may be called Universal, or Universal Comparative Grammar. Indo-European comparative grammar had little relation to this; indeed, to some extent, it rests on a false assumption if treated as being the general grammar, because what has been denominated Turanian, is the general grammar in the nature of things. Indo-European and Semitic being a development from this, must necessarily belong to the exceptional conditions, and do not, unless casually, furnish the general laws of universal grammar. The portion of Dr. Bleek's paper that he should at this moment point out as the most salient is the determination of the distinctive particles found in Caffre, and which he had partly traced in the Semitic. He (Mr. Clarke) embraced in the Semitic the North African, or Sub-Semitic languages. He would add to Dr. Bleek's series, the vast Tibetan group, the more particularly as exemplified by the Georgian, and also the Malay, which would give very valuable evidence as to the nature of the particles not yet sufficiently disclosed by the Caffre. The chief particles enumerated by Dr. Bleek are M, B, S, T, R, L, N, K. These will also be found to be the chief for-

mative particles in the Palæogeorgian language, and discernible likewise in the existing Georgian languages. As to their ancient influence, evidence would be found in the Indo-European family, and a popular exemplification could be found in English, sufficient to be understood by the casual student.* Many observations had been published on these letters, and he (Mr. Clarke) had given some, as to S and T, in his *Handbook of Comparative Philology*, 1858; but Dr. Bleek carried the matter a step further, because the true relations cannot be ascertained in Indo-European. There is still, however, much to be done, and it is under such circumstances he withheld his assent from some of the conclusions of Dr. Bleek. He was not assured that "Sex-denotation" is of so much importance as Dr. Bleek affirms. Even with regard to sex, it was quite possible that the sun or moon, in one pair or combination might be male, and in another female, but not strictly in the relation of sex, but as denoting the larger or smaller number of a pair. The dual arrangements would be in most cases sexual only in a secondary sense. He was not either prepared to concur in the allusion that mythology arose in a later age from sex-denoting particles. The particles which are not necessarily sex-denoting, but class-denoting, must have existed from the beginning of language. The study and extension of Dr. Bleek's researches must have extensive influence. It points particularly to a modification in the application of Grimm's Law, which is not so wide as supposed. The knowledge of languages in a truly ancient state as existing at the present day, will be found to be of much more value for comparative grammar than artificially cultivated languages of old date, like the Sanskrit. He would note, with regard to the inferences drawn from the Australian languages, in their calculations by two or four, that most of them are erroneous. Reckoning by one hand of five is not the most ancient or natural way, but a later mode. The oldest method was by four, very likely from the paws and claws of beasts, the hand of five appearing later as a numeral more or less interfering and mixed up with the numeral four. It is a question whether our own language does not show evidence of the quaternal numeration of *two* and *four*, which are closely related as *duo* and *quatuor*, and in the same conditions as some Australian numerals.

* If the primary roots in English are taken and dissected, leaving minute questions of derivations aside, they will be found to run on particular letters, and these chiefly the Caffre and Georgian letters:—

Mother, man, mouth, moon, month, morn, mist, mare, mouse, maw, meer, milk. Father, fist, finger, fish, fowl, fin, fly, flea, fire, foot, first, four, five, fox. Bull, brother, breast, blood, breath, bat, bee, beam, bear, brook, bourne, bow, bough, buck, bran, bird, bug, beetle, blade: Woman, womb, weam, wife, water, well, waist, wing, wood, weed, wool, wheel, wind. Son, sun, sister, sow, shin, sheep, soul, sea, star, spray, spawn, spat, spit, sky, shore, spring, sand, stick, stock, stalk, string, stone, skull, scale, shell, saw, snake, snow, skin, steer, straw, seed, stream. Tooth, tongue, toe, thumb, throat, thigh, daughter, dog, two, three, tun, tear, thou, thread, thirl, drill, tail, thorn, thong, tree, deer, drug, doe, day, dawn, dew, dung, (tree, three, star, thread, hair, deer, stream.) Ram, rain, arm, ear, rib, rat, reed, rush, root, ridge, ring, rind, rill, rim. Lip, leaf, leg, land, light, lamb, louse. Neck, nail, night, nine, nut, nit. Knee, knuckle, knife, egg, eye, I, eight, cow, coat, cat, kid, cloud, gnat, grass, claw, knot. Hand, hair, head, heart, hock, heel, ham, hide, horse, hog, hare, horn, house, hound, heat, hill.

DECEMBER 13TH, 1870.

PROFESSOR HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellow was announced: E. ROWLEY MORRIS, Esq., Gungrog Cottage, Welshpool.

Mr. W. R. GROVE, Q.C., F.R.S., exhibited twelve skulls from the ossuary at Rothwell Church, which were described by Prof. Busk, V.P.

IX.—*Remarks on a COLLECTION of SKULLS from ROTHWELL in NORTHAMPTONSHIRE.* By GEORGE BUSK, Esq., F.R.S.

THE skulls which form the subject of the following observations were selected by Mr. Grove from an enormous collection contained in a subterranean vaulted chamber in the parish of Rothwell. Of the history of this collection, or the sources whence the skulls were derived Mr. Grove was unable to obtain any authentic particulars; and it is not improbable that it merely represents the gradual accumulation, through a long series of years, of skulls and bones removed from the adjacent churchyard. The remains therefore might be taken as fair representatives of the population of the surrounding district for a very considerable period, and, as such, of much value in an ethnological point of view.

As the specimens selected by Mr. Grove were for the most part chosen as presenting what appeared to him some striking peculiarity—they cannot be regarded as affording any very correct idea of the general character of the collection, and it would be very desirable in the interests of ethnological science, that a full examination and numerous measurements should be made of as many of the skulls as possible, for by this means alone could it be determined whether the certainly somewhat peculiar characters seen in the skulls exhibited by Mr. Grove, are or are not present in a majority of the remainder.

The skulls submitted to me for examination consist of eight in tolerable preservation so far as the *calvaria* itself is concerned, but, excepting in one instance, the facial bones are all wanting, nor is there a single lower jaw among them. Besides these are fragments of four other skulls consisting for the most part of portions of the frontal bone.

1. The bones with one exception present the usual aspect of those which have lain long in a vault, none appearing to have been long in the open ground. They exhibit no marks of injury inflicted during life.

2. From their size and comparative thinness and delicacy I should conclude that some of the skulls are those of females.

3. As regards form, the most striking peculiarity of all or nearly all of these skulls is the extreme lowness of the forehead. It would not of course be difficult, in any large collection of modern English skulls to find many equally marked by this peculiarity, but I am not

acquainted with an instance where so many skulls from one locality are so strikingly marked in this respect. And it should be noticed that the frontal depression is as strongly evinced in the brachycephalic as in those of a more elongated form.

It is also to be noted that the frontal sinuses in most of the skulls, are of extraordinary dimensions.

4. With respect to the dimensions afforded by these bones I have thought it more convenient to throw them into a tabular form (p. xciii), from which the following particulars, amongst others, may be culled:—

(1.) That the proportionate mean dimensions of the entire *calvaria* taken in the way I have before suggested,—viz: by the addition together of the figures denoting the *length*, *breadth*, and *height*—are represented for purposes of comparison by the numbers in inches as under: (1) Rothwell skulls mean, 18·0; (2) modern English (mixed) mean, 18·58; (3) priscan and ancient (mixed) mean, 18·55; (4) priscan (Scandinavian) mean 18·88.

These numbers are of course merely relative, but they will serve to show that as contrasted with the ordinary recent English type, the skulls are rather small, and also as compared with a good many of the prehistoric or priscan and ancient skulls met with in this country, and still more so as compared with the large skulls of the stone period found in Scandinavia. This comparative smallness however may perhaps be accounted for by the circumstance that the collection includes female skulls, or it may be due probably to the smaller stature of the people,—a point which can only be ascertained by a proper examination of the limb bones is the same ossuary.

(2.) The majority of the skulls are more or less brachycephalic—in fact all but one—the mean latitudinal or cephalic index being ·782 and the highest ·833, whilst, in accordance with the law I have before pointed out* the latitudinal index is considerably less, viz: ·754.

(3.) In the other proportionate measurements of the skull there is nothing particular to remark.

* “On the Discovery of Platycnemic Men in Denbighshire,” *Journal of Ethnological Society*, 1871, p. 467.

Sir JOHN LUBBOCK, Bart, M.P., F.R.S., exhibited some stone implements from Africa, and read the following Note:

X.—*Note on some STONE IMPLEMENTS from AFRICA and SYRIA.*

By SIR JOHN LUBBOCK, Bart., M.P., F.R.S., Vice-President
Ethnological Society.

In a previous volume of our *Journal* (vol. i, 1869, p. 51) I described some stone implements from the Cape of Good Hope, which Mr. Dale, Her Majesty's Superintendent-General of Education in that colony, had been so good as to send me. I have since received a further

Table of Measurements of the Rothwell Skulls.

No.	Length.	Breadth.	Height.	Least frontal diam.	Greatest frontal diam.	Parietal diameter.	Oc cipital ditto.	Zygomatic ditto.	Frontal radius.	Vertical ditto.	Parietal ditto.	Oc cipital ditto.	Maxillary ditto.	Fronto-nasal ditto.	Circumference.	Longitudinal arc.	Frontal ditto.	Parietal ditto.	Oc cipital ditto.	Frontal transverse arc.	Parietal ditto.	Oc cipital ditto.	Latitudinal index.	Altitudinal index.
1	7.0	5.8	5.7	3.8	4.8	5.3	4.7	...	4.2	4.6	4.6	3.5	...	3.6	20.3	14.5	5.1	4.9	4.5	11.6	13.0	11.6	825	820
2	7.6	5.6	5.4	3.7	5.0	5.4	4.3	...	4.7	4.7	5.0	4.1	...	4.0	21.4	15.2	5.5	4.5	4.4	11.6	13.9	12.0	738	710
3	7.1	5.6	5.4	3.8	5.0	5.6	4.5	4.7	4.3	4.6	5.0	4.4	3.4	3.4	20.5	15.1	5.0	5.4	4.9	11.6	14.0	11.4	788	760
4	7.5	5.4	5.2	3.8	4.4	5.3	4.3	...	4.4	4.4	4.6	4.1	...	3.6	20.8	14.9	5.0	5.3	4.6	11.6	13.3	11.6	720	690
5	6.8	5.4	5.3	3.8	4.4	5.2	4.2	...	4.0	4.0	4.3	3.9	...	...	19.6	13.8	4.6	4.5	4.7	11.2	12.5	11.4	794	779
6	7.2	5.3	5.4	3.5	4.4	5.2	4.2	...	4.5	4.7	4.8	3.9	...	3.5	19.9	11.2	5.3	5.0	4.6	11.2	13.3	11.6	736	750
7	6.6	5.5	5.1	3.4	4.6	4.7	4.3	...	4.1	4.1	4.8	3.7	...	3.3	19.8	13.9	5.0	4.6	4.3	11.0	12.7	11.4	833	772
8	...	5.2	5.1	3.8	4.6	4.9	4.2	...	4.1	4.2	4.7	...	...	3.8	...	...	...	4.9	4.6	11.2	12.6	11.9	...	...
mean	7.11	5.5	5.3	3.7	4.6	5.2	4.3	...	4.3	4.4	4.7	4.0	...	3.6	20.3	14.1	5.1	5.0	4.6	11.3	13.1	11.6	782	754

collection from that gentleman, and also some from the neighbourhood of Accra, on the Guinea Coast.

I think I need not apologise for bringing these before the notice of the Society, because we as yet know very little about the stone implements of Africa. Considering, indeed, that Africa is the most backward of all the great continents, it is remarkable how little evidence we have of the use of stone implements in that part of the world.

The flakes forwarded from the Cape by Mr. Busk, as well as those first sent over by Mr. Dale, were all extremely rude, and showed little skill or labour. Subsequently, however, Mr. Dale has found some much more elaborately made. They may, however, all be called spear-heads. The collection contains no axes or scrapers, nor any specimens even approaching the true types of arrow-heads. In fact, they all more or less resemble the two specimens figured. Of these, the largest (pl. i, fig. 1) is $4\frac{1}{2}$ inches long, and $1\frac{1}{2}$ broad. It is lanceolate in form, pointed at one end only. As shown by the figure, the ridge is not in the centre; and this does not appear to me to be accidental, because the other face of the spear-head seems to be purposely rubbed down on the same side. Thus, the thicker part on the one surface is to the right, on the other to the left. Hence, the opposite surfaces have opposite curvatures, and we get, though in a minor degree, that alternate fluting which is so generally found in African iron weapons, as pointed out by Col. Lane Fox.

This disposition is even more distinctly marked in the second specimen figured (pl. 1, fig. 2) This spearhead is somewhat smaller than the first, being 3 inches in length, by $1\frac{1}{4}$ in breadth. It is rather less pointed at the tip, and more so at the butt. Making allowance for the difference of material, it closely resembles some of the oval implements from the drift; having very well marked that twist, by which many of them are characterised. They are however generally larger, and rather broader in proportion.

Fig. 3, pl. 1, represents an Egyptian sacrificial knife of flint, which is in the Mayer collection at Liverpool. It is of pale but dull reddish brown colour and nearly opaque: it is 3 inches long, 1.1 inch wide, and tapers to the edges, the straight margin being the sharpest. Fig. 3, which represents this interesting specimen of the natural size, I owe to the kindness of Mr. H. Ecroyd Smith, Curator of the Liverpool Museum.

I have next to call the attention of the Society to some stone implements from the neighbourhood of Accra on the West Coast of Africa. They were collected by Mr. Winwood Reade, author of the work on "Savage Africa," who has recently returned from a second visit to that country, where he has been engaged in scientific investigations, at the expense of an enlightened African merchant, Mr. Swanzy, to whom I am indebted for the specimens now exhibited.

They were obtained at two places called Akropongo and Aburri, on the Gold Coast, 1500 feet above the level of the sea, and at Odumasie on the banks of the Volta. They appear to be met with not unfrequently when the heavy rain-storms cut gullies in the soft alluvial soil. Such storms are usually accompanied by thunder and lightning, and the

negros therefore call them "thunderbolts," and "God axes." It is very interesting to find in Western Africa just the same ideas about these stone axes, as have grown up in so many other places where the use of stone implements has been not only abandoned, but forgotten. We know that they are regarded as thunderbolts from Western Europe to Eastern Hindostan, and now we find the same idea in Western Africa, among a totally different race of men. More than this, in Africa as elsewhere, they are used as a medicine; bits of them being powdered and drunk as a cure for various ailments, especially rheumatism. Mr. Reade adds that there is no tradition of the use of stone implements on the Gold Coast, and the natives have no idea that these axes were so used. Some of the West African axes, as will be seen by the figures (pl. ii, figs. 1 and 2) closely resemble some of the smaller axes so common in Western Europe. Indeed this type may be said to be cosmopolitan, and needs no description. The African axes belonging to it are (at least those I have seen) small, being from two to three inches in length.

The majority of those collected by Mr. Reade belong however to a different type (pl. ii, figs 3 to 5). They are small, narrow, and thick: from 2 to 3 inches long, 1 to $1\frac{1}{2}$ broad, and $\frac{3}{4}$ inch to $1\frac{1}{4}$ thick. Some of them are round at the butt, others somewhat flattened. None of them are of flint. The collection also contains a quartz pebble, (pl. i., fig. 4) square, $1\frac{3}{4}$ inch across, with a thickness varying from $\frac{1}{2}$ to $\frac{3}{4}$ inch. The angles are rounded off by hammering, and it is pierced in the centre by a comparatively small hole, as if it were intended to be worn as a charm.

In the present state of our information, it is impossible to offer any conjecture as to the age of these implements. The depth at which they occur, and the absence of any tradition concerning them, prove no doubt that they are not of yesterday, but do not necessarily indicate any great antiquity.

As regards the condition of the people by whom these axes were used, though we must not conclude definitively that they were in the stone age, still from their ineffective character, and considering the abundance of iron ores, and the facility with which they are smelted, it seems unlikely that such wretched implements should have continued in use, long after the discovery of iron.

Lastly I propose to call the attention of the Society to a beautiful, and so far as I know unique, little flint object. It was found, not indeed in Africa but in Syria; I mention it here, however, because Syria is so intimately connected ethnologically with the Northern part of Africa.

It was found by Mr. Freeman, in a Wady known as Wady Ithm, on the road to Petra. It is of brown, creamy flint, $2\frac{1}{4}$ inches long, pointed at one end; the sides are parallel for the greatest portion of its length, and it has a maximum breadth of nine-twentieths of an inch. The butt end terminates like that of a scraper. One surface is flat; the other has a median ridge, and is beautifully and evenly fluted on each side. The figures (pl. i., fig. 5) will give a good idea of this beautiful little specimen.

I will not attempt to determine its probable antiquity or use,

merely remarking that it more nearly resembles some of the Danish arrowheads, than any other stone objects with which I am acquainted. I scarcely think, however, that it was intended as an arrowhead.

EXPLANATION OF PLATES I. AND II.

PLATE I.

Figs. 1 & 2. Two stone implements of spear-head form, from the Cape of Good Hope.

Fig. 3. Ancient Egyptian sacrificial knife in flint, from the Mayer Collection, Liverpool.

Fig. 4. Perforated pebble of quartz, from Accra, West Africa.

Fig. 5. Delicately worked object in flint, from Wady Ithm, Syria.

PLATE II.

Figs. 1 to 5. Five stone axes from the neighbourhood of Accra, W. Africa.

N.B.—All the objects figured in these plates are represented of natural size.

DISCUSSION.

COL. A. LANE FOX said, with reference to the remark made by Sir John Lubbock upon the resemblance of the two stone spear-heads (pl. i., figs. 1 and 2) to the corrugated iron blades found in use in various parts of Africa, that one of the spear-heads (fig. 2) appeared to have a slight twist, which though it might produce the same effect of giving the spear a rotation during flight, did not resemble that of the iron blades, but might be compared rather to the twist so frequently found in drift implements of the palæolithic type, which he believed to be purely accidental. The other spear-head (fig. 1) was differently constructed; the faces were unequal on the opposite sides of the spear-head, the ribs dividing the faces not corresponding on the two sides, but leaving a broad face on one side opposed to a narrow face on the other. This would also produce a rotatory motion, and it more closely resembled the principle of the corrugated iron blades; but he thought it was a question whether it was intentional or the result of accidental fracture. It would require that a number of such stone blades should be discovered, in order to prove that the form of the iron blades was derived from those of stone previously used in Africa. It was important to consider the geographical distribution of these iron blades. They were found all over Africa wherever iron was worked, from the Caffres on the south east and the tribes visited by Petherick in the Nile, to the Fans of the Gaboon,—tribes that had no knowledge of each other's existence; and the best proof that this form was not contrived independently by these tribes, for its use as a missile weapon, was, that it is used not only in missile spears but also in dagger-blades and axe-heads, and amongst the Caffres it is sometimes copied in wood; neither was it a necessity of the workmanship arising from the manner in which the blade was turned over on the anvil by the workman, for in all these countries some blades were corrugated whilst others were not, and the corrugations assumed various forms and were introduced into the ornamentation of the blade. It was evidently a conventional form devised, and persistently copied from



Fig. 1.

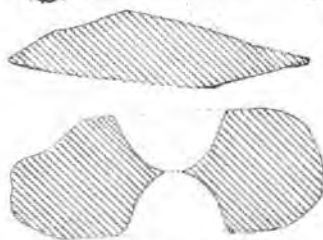


Fig. 4.



Fig. 2.



Fig. 5.



Fig. 3.

Hall, Proc. Linn.

that he had not only picked up scores of similar flakes in the eastern province, but had, moreover, when a boy, actually used them as heads for his own arrows, finding them from their shape peculiarly adapted to his purpose, the usually concave form causing the arrow to spin like a rifle bullet and thus travel with greater accuracy. I should mention that my friend is one of the great rifle shots of South Africa. He did not seem to have known that they were "the works of men's hands," and, on my expressing some doubt as to the identity of the forms, he declared that he still had some remaining, stowed away on a beam in an old barn, which he promised to send to me if the barn had remained undisturbed, and had escaped the ravages and burnings of his foes, the Kaffirs.

Chance, or fortune favoured the further discovery of South African celts! Mr. Bowker's parcel arrived several months afterwards while a chance visitor was present. This lady, the wife of Dr. Dale, the Superintendent-General of Education, was inoculated with my enthusiasm on beholding veritable South African stone implements. Coarse and rude though they were, they were the first that had been discovered in that region of the world, and I showed to my interested listener all the types I could gather from the museum stores.

Again the fickle goddess (Fortune, not my fair friend!) helped the good cause! Mrs. Dale was walking on the "Cape Flats," near her own residence, with a gentleman recently arrived from England. Suddenly he stooped and lifting up a stone from his feet, exclaimed, "Well! if we were not in South Africa, where I know no flint instruments have ever been discovered, I should say I had picked up a stone arrow-head." Mrs. Dale of course, immediately related the incident of the arrival of Mr. Bowker's specimens, which she had witnessed a day or two previously, and a further search revealed that they were walking over what I subsequently ascertained was an ancient manufactory of these stone weapons. Of course, immediate notice was given me of the discovery, and from this, and adjacent spots, most of the finest specimens have been procured.

Such is a succinct account of the first discovery of our South African weapons. I will now proceed to detail the various forms that have been found and of which specimens are mounted on the four cards exhibited.

On the first card we have twenty-one of the most highly wrought specimens yet discovered. Some are of perfect shape, being pointed at both ends and carefully worked on both sides, resembling those exhibited by Sir J. Lubbock (pl. i, figs. 1 and 2), while others are points of similar weapons: some are probably, from their small size, arrow-heads.

On the next card are several heads of a more unfinished kind; some of them are turned so as to show what may be called the "reverse" side, and the "boss," or cleavage lump, so remarkable on all these stone chips. There are also three cores, from which some of the flakes have been chipped. It is curious that, up to the present time, we are ignorant of the locality whence come the stones of which these weapons are formed. Apparently it does not exist in the neighbourhood of the manufactory, for such I consider the place (or places,

for there are several very close together) on the Cape Flats from whence these specimens were taken. Two of the specimens are what I believe to be stones for flinging. At the present day the native tribes are great adepts at flinging stones and knob-kerries.

The next card contains chips of various sizes: many of these were doubtless used as knives and scrapers. The ground is covered with them, clearly showing that it was the site of the manufactory. Two of the specimens are from the Albany district, and formed of a different description of stone from the rest.

The last card contains a varied assortment; some are from the Albany district, and are of Mr. T. H. Bowker's finding; but present a very great contrast to the comparatively highly finished specimens previously mentioned. Others are from the country near the Tatin Goldfields, many hundred miles from Cape Town. One specimen is a hammer: the rough edges show the hard work it has undergone in chipping off arrow-heads, etc.; the indentations on each side are purposely made to afford a firm grasp for the thumb and finger. Such hammers are not uncommon on the manufactory grounds, though scarcer than the cores, which are in their turn scarcer than the chips, and arrow-heads. With these stone implements are exhibited two fragments of intensely hard, coarse pottery, such as is always found in conjunction with these implements. One large piece in the South African Museum has evidently formed either the lid, or, as some suggest, a handle of a pot. It is a thickened lump, with a hole through it, clearly caused by the thrusting in of the two fore-fingers of either hand until they met in the centre. There are two descriptions of pottery, one rather finer than the other. It is singular how clay, containing such large fragments of quartz, should be so tenacious.

I will now briefly describe some other implements, not in my possession, but retained in the South African Museum.

1. A large stone pick, found 15 or 20 feet below the surface, by Mr. C. A. Fairbridge, in his garden at Sea-point. The ground is on the slope of the Lion's Head Mountain, and is formed from the *débris* of that hill. On comparing it with some of the earliest Indian forms, it appears identical. Two others have been found on the Cape Flats.

2. Three little elongated axes, formed from a hard black stone found in the Orange river. Two of them unfortunately have their cutting points broken, but the third shows clearly from the way in which it is worn away, that it must have been fixed angularly to a handle, and used as an adze. These were found in the Tulbagh district.

3. A stone axe, with a longish tail; its shape reminds one of a halbert head: the tail was probably inserted into the head of a knobbed stick, as is the common practice now-a-days with the natives with their narrow wedge-shaped iron axes. This appears to have been made of a soft, inferior stone, and though very efficacious as a war hatchet, would not have been of much service in cutting wood.

4. Rubbing stones and mortars (?). These are the names I have

given to certain forms to which I can attribute no other uses. The first are like stones I have seen used to grind colours; they are oblongo-oval, affording a nice grasp to the hand at the round end, and ground quite flat at the other by attrition. The mortars are flat discs, some eight or ten inches or less across, and have a depression in the centre apparently caused by friction.

A description of the stone weapons of South Africa would be imperfect without an allusion to some implements which, however, I believe, to have been used at a later date. First, there is in the South African museum, what I suppose to be a mandril. It was found twenty feet below the ground in clearing out the "eye of a fountain." It is beautifully smooth and rounded, tapered to both ends, sharp-pointed at one, truncated at the other. It is about twelve or fourteen inches long, and one and a half or two inches in diameter.* It may have been wrought in more modern days for use as a mandril on which to shape copper and iron bracelets.

Secondly, the perforated round stones found all over the colony. These vary in size and shape, and are as globular as a common ball. They were said to have been used even in later days by the bushmen for the purpose of weighting their bulb-digging sticks. They are described by Patterson and the older authors on South African travel.

It will be seen that the implements found on the Cape Flats are all more or less polished and smoothed. This is caused by the continual drifting to and fro of the loose sand covering this tract of land, which is intermediate between Table Bay and False Bay, and has evidently at some very remote period been submerged beneath the ocean.

The implements seem to have settled down through the sand, and now rest on the iron-stone conglomerate, which forms a kind of crust under the drifting sand; when this is broken through, clays, marls, etc., are reached.

A supplementary Report on the Prehistoric Antiquities of Dartmoor, by Mr. C. Spence Bate, was then read. This supplement is incorporated in the following report, which was submitted to the Society on June 1st, 1870.

XII.—REPORT on the PREHISTORIC ANTIQUITIES of DARTMOOR. By C. SPENCE BATE, Esq., F.R.S.

OF the several counties of England there is, perhaps, none that affords more varied scenery, each equally beautiful after its kind, than may be seen in Devonshire. On the southern coast, the bold headlands, with intermediate sloping lands, run far out into the sea, while inland fertile valleys and wooded hills afford picturesque loveliness to a landscape that scarcely has its rival. In the more southern "coombs," or sheltered vales, from which Devonshire derives its name,† the genial climate is so mild that exotic plants live unprotected

* I write from memory.

† *Damnonii*—"Men of the deep valleys." Devon—*Dynnaint, Denv-noynt*, "deep or dark valleys, from which Devonshire derives its name."

in the open air. The myrtle, the fuchsia, and the magnolia become large trees, while the lemon and citron, with but little shelter from the keenest frosts, produce fruit that has not been surpassed in size and flavour. This district was anciently called, and is still known as, the "South Hams."

More inland lies the region of Dartmoor, a vast tract of undulating ground, having its highest points capped with granite tors, rising to two thousand feet above the sea. Bare and exposed, there is not a tree to be seen, except where the striving hand of man has endeavoured to overcome in a few isolated spots, the cruelty of nature.

De la Beche describes Dartmoor as "an elevated mass of land, of an irregular form, broken into numerous minor hills, many crowned by groups of picturesque rocks, provincially termed tors; and, for the most part, presenting a wild mixture of heath, bog, rocks, and rapid streams."

Two hundred years ago, Ridsen wrote, "Between the North and the South Hams there lieth a chain of hills, consisting of blackish earth, both rocky and heathy, called by a name borrowed of its barrenness, Dartmoor; richer in its bowels than in the face thereof; yielding tin and turf, which to save for fuel, you would wonder to see how busy the by-dwellers be at some seasons of the year; whose tops and tors are in winter covered with a white cap, but in summer the bordering neighbours bring herds of cattle and flocks of sheep to pasture there. From these hills, or rather mountains, the mother of many rivers, the land declineth either way; witness their divers courses, some of which disburden themselves in the British Ocean, and others, by long wandering, seek the Severn Sea."

This quaint description of the central portion of Devon appears to be as true in the present day as at the time of which this author wrote. But in order to appreciate, as far as in our power lies, the customs and habits of a pre-historic people, it should be our endeavour, as far as practicable, to ascertain the topographical character of the country, at, or as near as possible to, the period at which these people are supposed to have lived.

If we go back to the earliest records, we find that when the Conqueror came, those fertile valleys of Devon, which we are accustomed to hear spoken of as the Garden of England, existed only as a dense virgin forest. Here and there were scanty clearings around Saxon strongholds, near which some wooden shanties roughly built might be seen, while the old Roman road that went from Exeter to Plymouth was probably still capable of being distinguished, though rapidly becoming entombed in the struggle of the surrounding vegetation to regain its dominion. The submerged bays and inlets all round the coast demonstrate that wood once grew even to the water's level, and the *Domesday Book* tells of the large amount of forest and uncultivated lands that existed at the end of the eleventh century, but makes no mention of Dartmoor. This name appears to be first used in historic records in the year A.D. 1236, in a royal patent, wherein Henry III grants to God and the Holy church of St. Petrock of Lydford, a tenth of the herbage of Dertemore; and four years after, that is in 1240,

the same king Henry, by perambulation, made a certain portion a forest, which is known as the Forest of Dartmoor at this present time.

With the term "forest" we are liable to associate numerous trees, but in this instance the term either applied to such lands as were brought under the forest laws, or else indicated that it was beyond the pale of cultivation, and so a strange or foreign tract of land. But whatever the origin of the term, Dartmoor has always been a sterile district, unless we go back to the pre-historic period, when our raised sea-beaches were at the present sea-level, so that by lowering the whole country some thirty feet or more, we may presume that the climate was so modified, that the trees, whose roots and trunks are now found preserved in the numerous peat bogs, were then in full luxuriance.

But even supposing this to have been the case, the quantity is not sufficient to induce us to believe but that, when all the rest of the country was densely covered with dark clouds of forest, the region of Dartmoor was a vast undulating district of turf and bog. However changed may be the general aspect of the country, there are some conditions that must be still the same. "The mother of many rivers," the streams flow on now the same as in ages past. In the beds of these many rivers, most of the tin that was supplied to the nations of Europe was found. Along the course of every stream numerous ancient workings demonstrate the eagerness of the search; and the remains of ancient smelting-houses show the various stages in the course of progressive civilisation. Ancient moulds cut on the face of hewn and unhewn blocks of granite are frequently found,—the more perfect in connection with the numerous smelting-houses on the moor, and those of rudest form, in connection with spots that still retain the evidence of fire. These latter are known, more especially in Cornwall, by the name of "Jews' houses." Here traces of smelted tin are frequently found, sometimes in small grains, and occasionally in large blocks. Some of these have been preserved. One in the museum at Truro, weighs about 130 lbs., and is shaped like a butcher's tray; it is two feet eleven inches wide, and three inches thick at the centre; perfectly flat on one side, and curved on the other, and having four prolongations at the corners, each a foot long. It is well adapted for being carried by two men; for being placed at the bottom of a boat; and for being strapped, one on each side, with their flat surfaces against the sides of a horse. This block of tin was dredged in Falmouth harbour, where probably the boat that was exporting it had been lost.*

Some information respecting the climate is also necessary to assist us in approximating to a knowledge of the habits and condition of the prehistoric people. Before the time of Diodorus, Hecateus said, that "there is an island in the Ocean over against Gaul, under the Arctic Pole, where the Hyperboreans dwell, so called because they lie beyond the breezes of the north wind; that the soil there is very rich and fruitful, and the climate temperate, inasmuch as there are two crops in

* A model of this block of tin may be seen in the Museum of Practical Geology in Jermyn Street, London, where it is exhibited in association with some specimens of the so-called "Jews'-house tin" in wall case 10.

the year." This is assumed to be the south of Britain, as being the only place that answers to the description of the old geographer. Thus, as far back as we have records, the climate of Devonshire along the sea-border appears to have but little altered. We must, therefore, contend, that that of the interior also cannot have much changed.

The climate of Dartmoor, as we know it now, is very different from that of the rest of Devonshire, and is very varied in itself. Its summers are genial and pleasant, and the hottest days are always tempered by a refreshing coolness born of the altitude to which the tors are elevated. In the winter the whole is changed. Rain, frost, snow, or fog, is the daily aspect from November until March. But *rain* does not fairly express the humidity of the climate. The wet pervades every place and thing; the thickest granite walls will not keep it out, and when the stone has been faced with brick, the moisture seems to rise from the soil within, or is condensed upon the walls, for they seem still to drop with wet. The snow in this wild place is more severe than is known elsewhere in the county. Snow in Devonshire is but a thing of beauty. It comes in a night, and thaws in a day; it is welcomed as a sign of winter, and is enjoyed while it lasts. But on Dartmoor a snowstorm is a fearful thing; the hardest Moor-man dares not venture out, and woe betide the traveller who may be caught in it. Scarcely a winter passes but we learn of some life being lost in this wild place.

But we are writing of this present time, when Dartmoor is comparatively thickly inhabited, when broad, and well-kept turnpike roads traverse the district from end to end in every direction. The time, however, is not so long since, counting by years, when the direct road across the moor was defined by granite pillars with letters on the side, to direct the traveller to the town to which he was journeying. Several of these posts still remain between Hessary Tor and Merrivale Bridge, something like a furlong distant from each other, with the letters **A** on one side and **T** on the other, showing that the line of pillars directed the way from Ashburton to Tavistock.

Besides the rain and the snow, the mists are among the most disagreeable features of the moor. These are the more troublesome, because of their frequency and of the suddenness with which they come on. A small, unsuspecting cloud may be seen hanging round the summit of a neighbouring tor; anon, in half a hour the small cloud expands and rolls down the mountain slope, shutting out everything from view. Woe to the traveller who, without compass, may happen to be on the moor then!

And, in the bright summer days, the air is so buoyant and elastic that invalids grow strong, and old men young, with that delicious consciousness of life that is rarely to be met with in busy scenes, and never felt in crowded cities. Such was the climate of Dartmoor in the old time, when the early inhabitants of these islands erected those huge and unwrought monuments to which I desire to draw attention.

The exceptionally beautiful summer of 1870 has been most favourable for moorland exploration. This has been particularly true of

Dartmoor, where in most years the extensive tracts of bog are very wet and soft. This year a horse could easily pass over the most dangerous places and not be more than fetlock deep, and that more frequently in dust than in mire. The drying of the soil has been visible over every portion of the surface; most conspicuously in the neighbourhood of the rocks and stones.

Round the base of every boulder a margin of unstained granite marks the action that the vegetable mould has had upon its surface. Disintegration is moreover strongly evidenced in the numerous fragments of granite found round the base of every stone.

These splinters demonstrate the gradual destruction from weather-action of these old moorland monuments; a fact that in itself accounts for the absence of ancient markings (even if such ever existed) being still found.

I think that we should first attempt to arrive at a knowledge of the dwellings which the old inhabitants erected on the moor, and in which they probably lived at least half the year. These are somewhat differently constructed in different parts of the moor; sometimes existing in clusters, and sometimes as solitary dwellings; sometimes in connection with what we call Druidical remains (for want of a better name), sometimes in connection with ancient stream-tin-workings, and sometimes associated with enclosures of small tracts of cultivation.

These hut-dwellings were generally built with a double row of stones closely put together, the outer one being about two feet distant from the inner. These hut-circles range generally from nine feet in diameter to five and thirty; and inside some of those of medium size at the centre, is frequently a small heap of stones which has been supposed to have been the remains of a fire-place (pl. iii, fig. 4.) The interior and upper portion of the walls of these circles was undoubtedly built with turf cut from the surrounding country. The small heap of stones in the centre that has been described as a fire-place was, I believe, a spot on which an upright pole was fixed for the purpose of supporting the centre; thus the turf was gradually built inwards until it was necessary to support it from within. In larger dwellings no such stones are apparent, and we must therefore assume that their greater span required some other mode of support. Thus we may imagine that the turf roof was kept up by a series of rafters, or poles, resting one of the ends on the external wall, while the others met together at the middle, and here being tied together by some strips of bark, they formed the apex of the roof, when probably the imperfect connection of the materials allowed the escape of smoke from the fires within (pl. iii, figs. 1 and 2).

Some writers have contended that after the first few feet of stone and turf, the huts were roofed in with a thatch of rushes.

Rushes are to be found on the moor in some quantity, but certainly not in such abundance as would make them the easiest material to collect. Neither would they be found the most suitable. The large span of the dwellings seems to contradict the idea of a roof such as would make reed serviceable. A thatched roof can only be practically valuable when it is high-pitched, since otherwise the moisture which is so pre-

valent in this district, would rapidly penetrate the roof and be continually dropping within ; and a steep or high-pitched roof in huts of from twenty to thirty feet diameter could only be attained by raising them to so great a height as to preclude their being able to withstand the frequent storms of the colder seasons.

On the Dartmoor there is nothing so convenient and so easy of being procured as the turf of the neighbourhood, and moreover nothing so suitable for the purpose. When fresh cut, peat has a consistency more like that of clay ; under only small pressure, it will readily bind very compactly, and, after having been once dried in the sun, will resist with considerable persistence the penetration of the heaviest rain. This would be used most probably for the walls, while turf, locally known as "fag," would be best for the roof, and is still used for that purpose on the moor ; it also has the advantage of allowing the huts to be so low that the wildest weather would pass over the villages without injuring them.

The remains of these huts are generally found associated in groups, sometimes in very large villages—rarely alone. They are generally found on the sunny side of the tors—frequently in the neighbourhood of a stream which shows signs of having been well worked over for tin. Wherever they are found they frequently seem to be associated, more or less intimately, with other remains, such as circles, parallellitha, kistvaens, etc., the evidences of past history, of which we have no other record ; and if care be not taken to preserve them, these are liable to be broken up to mend our highways, or become the gate-posts of some neighbouring field. There are many instances where these associated villages are, or were, surrounded by a wall of granite stones. These appear to possess features varying somewhat in different localities. On the side of the hill under Shelltop, is one that is enclosed by large stones, which built up a wall of considerable dimensions round it, still in tolerable preservation. The enclosure is nearly square, with the corners rounded, being about one hundred and fifty paces each way, and enclosed on all sides except what appear to have been entrances from without, one of which is near the upper extremitiy on the eastern side, while the second is on the lower and southern side. On each side of the lower entrance there are the remains of small huts or chambers, built in connection with the wall of enclosure. One of these appears to be situated on either side of the entrance, and is suggestive of having been built for the protection of the sentinels placed to guard the admission to the village camp ; two other such sentinel-huts were placed one on each side of an old trackway that approaches the village at the south-east corner, and leaves it again on the south-western corner, and may be traced for some long distance over the moor leading to a cairn on one side, and to an avenue and cairn on the other. Within the enclosure are nine or ten hut-dwellings, two of which are peculiar from being double. Another enclosure of somewhat similar character is the better known village of Grimspound. This was described in *Rowe's Perambulation of Dartmoor* about two-and-twenty years since, and appears to be nearly in the same condition now as then. The

stones at Grimspound are larger and more cyclopean in character than those of the village just described under Shelltop, consisting mostly of moorstone blocks, so large as not to be easily displaced. The average height of the rampart is still about six feet, but the width of the base is fully twenty feet. With the exception of an opening on the east and west, the enclosure is perfect, surrounding an area of about four acres. The hut-circles in this enclosure are numerous, occupying every space, leaving only one vacant spot at the upper end. A spring rises near the eastern side, and skilfully conducted for some distance below the wall, supplied the inhabitants with pure water. The whole, says Mr. Rowe, presents a more complete specimen of an ancient British settlement than will perhaps be found in any other part of the island. On many parts of the moor enclosed villages may be found somewhat similar in character. There is one near the head of the Yealm, built with rather smaller stones than those previously described, the study of which, I think, may throw a little light on the engineering architecture of the period. The enclosure, or pound, as it is locally called, is about a hundred and forty yards square, and encloses about thirty huts. On the western side extends a second enclosure, but not quite so large. The entrance to both these walled villages is towards the south.

In some parts for a few feet the wall is tolerably perfect ; for instance, at the south-eastern corner, for about six feet, the wall has a perpendicular face on the outer side ; about half way up the eastern wall it is tolerably perfect for a yard or two on the inner side (pl. v, fig. 4.) I therefore am enabled to show that the base of this old wall, though somewhat irregular, was about six or eight feet in breadth. The wall was first commenced by an internal and an external row of stones fixed in the ground on the edges, so as to stand upright ; within these two rows the stones were placed, with a small attempt at regularity, and (judging by the quantity of stones that lie about) to the height probably of from six to eight feet. The entrance to the enclosure was on the southern side, being that which is nearest to the river, which is about a quarter of a mile distant. On the upper, or northern side, towards the eastern corner, there is another opening, but which appears rather to have been made by the destruction of the fence than to be intentional in its design. Near this opening there stands against the outer surface of the wall a small hut of beehive shape, built of stones, only the roof of which has fallen in (pl. iii, fig. 3), the walls still remaining in some parts to the height of about five feet. Seeing that it stands near a gap in the main enclosure, one would be inclined to think that it might have been erected recently by some loiterers on the moor, but for the following circumstances. First, there are evidently the remains of two or three others on the eastern side ; that is, the side most open to a wide expanse of moor ; and secondly, that there is in the plan of the hut a peculiarity of form that I have seen nowhere else except in the moorland chambers. The form approaches that of being straight on two sides, and curved on the third. The walls are about three feet in thickness, and slope inwards. Within this enclosure are about thirty hut-circles of different sizes, and within the smaller enclosure at the south-

western extremity several more. Outside the wall on the summit of the hill, and on all sides, are a very large number of the remains of similar dwellings, many of which appear to have been built almost wholly with turf and stone. This may, I think, be gathered not only from the circumstance that in some places a few feet of such mixture of material may be found, but also from the quantity of small granite stones which remain on the ground within the circles, the remaining evidence left by the *débris* of fallen roofs of these old abodes.

At Merrivale Bridge, there are two enclosed villages—one upon the plan of that last described, and the other still more cyclopean in character, the entrenchment being formed with huge blocks of moorstone. But these are retained in their position, only for about half the circuit of the village. There is an enclosed village on the Avon, the huts within the circle of which are numerous; many of these have in connection with them smaller erections of the beehive construction, some of which are in tolerably perfect condition. That which I figure as fig. 5, pl. iii, has only a small hole on one side near the top broken in. This hut appears to have been built according to the usual plan of these buildings; that is, by gradually placing stones one on the top of another, each succeeding one reaching still farther in than the preceding; in this way all parts of the wall incline towards the centre, care being taken that the weight of stone balances, so as not to topple the sides over; in this way they are raised until the opposite sides of the building approach near enough to each other so as to be spanned by a single capstone that completes the arch on the summit. One such building as this still exists, in very perfect condition, on the banks of a stream that falls into the Erme on the right bank between Staldon Moor and Staldon Barrow. This is shown in fig. 6, pl. iii. It is about six feet long, four wide, and three high; the stones of the side walls overlap each other, and three large capstones form the roof. The outside of the building is much higher, but this is due to the accumulated vegetable mould of many years. The entrance to this strange little building is up the stream, and one would have supposed it very liable to have been inundated by the floods that must occasionally have poured down the brook. To obviate this, two or three large stones defend the entrance, by being placed upright across the lower portion of the doorway; and about three or four feet distant is a low wall of large granite stones, that was evidently placed to act as a breakwater, and to direct the flood away from the entrance of the building; in this it has been successful, since had it been otherwise, the hut would not have continued to enable us to describe it. This last differs from those on the Avon in being solitary, no such hut or hut-circle being found within some considerable distance. This erection appears to be somewhat more rounded also, but this may arise, as is most probably the case, from the character of the overgrowth of soil and vegetation—the one on the Erme being covered with heather and ferns, while those on the Avon are mostly covered with turf and short weeds.

On the Avon the beehive huts are not only in close connection with the remains of ancient villages, but are in every instance incor-

porated as portion of a hut circle. That which I have described (pl. iii, fig. 5), although standing in close connection with the wall of a hut, yet occupies a place within a circle that is somewhat oval in form, being about thirteen feet long and eight broad, the entrance to which is at the opposite extremity to that of the beehive erection. This appears to be the general character of these buildings, but there is one that varies in its construction from the others. The one that I have figured as fig. 1, pl. iv, has what appears to have been a short passage leading to it, but this which seems to have been the inner side of the passage, is, I think, the remains of a central wall, which supported the roof of the building; my reason for so thinking is in consequence of a close examination of the stones that remain in position, of which the drawing is a tolerably close representation. The stone which stands as the central portion of the roof, instead, as in the other huts of this description, forming the cap or covering stone of the roof, lies under one extremity of a long stone that rests its opposite end on the outer wall. To do this, the stone at the inner end must have received support. This stone, in all appearance, was a continuation of the inner wall of the supposed passage. I therefore believe that a correct restoration of the hut would show it to have been an oblong erection with a wall running through the longer axis, from the summit of which long flat stones sloped to meet the stones that form the outer walls, one on each side, so as to form a double chamber, such as I have given in section in fig. 2, pl. iv.

The form and size of these small huts are strong evidence of their *not* having been used as dwellings, but of their incorporation as parts of larger huts. There is every reason to think that they were places for keeping stores of food, or other valued possessions in. The hut circles are tolerably numerous, but all have not beehive erections in connection with them, although there are several specimens of the latter to be found among them. Some of the hut circles are outside, but most of them are within a walled enclosure of tolerably strong uncemented masonry. The outer wall of this village affords no variation worthy of remark as distinguishing it from some of those previously described; but there is one on the western slope of Trowls-worthy Tor that cannot be passed over without especial notice.

This enclosure is nearly circular, and measures about one hundred and fifty paces each way (pl. v, fig. 1). The walls are unbroken through the entire circuit, excepting at two entrances, one facing towards the north, the other towards the south. These two entrances I wish to describe. The walls which form the circle are about five feet in width, and the entrances are about six feet. The opening on the north side is blocked up by four walls, each wall being diagonally placed with regard to the walls of the enclosure, two within and two without, placed in the form of a cross. The outer walls extend for about twenty-four feet each, running smaller towards the distal extremity, and larger towards the enclosure, where they approach each other so near that only a single man at a time can pass between them; so also on each side of these walls, between them and the extremities of those of the enclosure, there is but space enough for one person at a time

to pass in or out. Within the enclosure, the inner walls extend one—for about twenty-seven feet, and the other for above twenty feet. The inner walls resemble those on the outer side, except that they reverse their position and extend farther from each other the farther they advance within, where also they as gradually decrease in size and importance.

At the southern entrance the arrangement is somewhat different. The walls, which are erected on the outer side, are not so straight, and have the distal extremities curved, and the space within heaped irregularly with large masses of granite. The inner walls are likewise less straight—more particularly that which lies most towards the west. The outer and the inner walls are brought so near that it would be impossible that more than one person at a time could pass. Within this entrance to the enclosure is a hut-circle which differs from these relics generally as well as from those within the present circle also, in being placed on made ground; the ground evidently having been built up for making the hut to stand upon level ground.

I think that these two kinds of works at the gateways or entrances to the camp are evidence of the military character of the enclosure, since they are evidently designed to prevent a rush of many men, it being impossible for more than one person to pass at a time. And if the square-like chamber on the inner side of the southern entrance, of which a few stones in line still remain, has been intended as a place for a sentinel watch, a single man might defend such a position against great odds. The whole plan, I think, is an interesting specimen of ancient military engineering.

I know of but one thing at all resembling these gateways, and that is on the same hill, near the ridge, where a wall of about fifteen feet thick extends from Trowlsworthy Tor to near the banks of the Cad, a distance of a mile. About a quarter of a mile from the Tor there is an opening of several feet in width, but the passage is narrowed by two walls on either side. Here, instead of the flanking walls being straight, as in the northern gateway of the enclosure, they are curved, so as to widen still more the entrance the farther the distance from the main wall.

On Brown Heath, near the head of the Erme, are two enclosures of about one hundred and fifty yards in diameter, in which are several hut-circles (pl. v, fig. 2). These two (*a*, *a*) are connected by, or, at all events, lie adjacent to, a stone avenue (*b*), of about 177 yards in length, with a kistvaen enclosed within a circle of stones (*c*), of which fourteen are still standing. The avenue is a double one, and lies north and south, the kistvaen being at the northern extremity. At about one-third of the length of the avenue from the kistvaen are the remains of a hut-circle (*d*), which impinges so closely upon the avenue that it is a wonder that the one has not destroyed the other.

It is a curious question here to consider, which of these two was the first in position. If the avenue were first placed, we should have thought that those who built the hut would have used the stones of which the avenue was formed for the purpose of erecting the found-

ation of their abode. Or, even had the large enclosure been of later date than the avenue, we should have supposed that the stones would have been removed at a time when such an enormous quantity was wanted for the building of these extensive walls. These lying so conveniently would have been first used had the enclosures been of later date than the age of the avenue. I think that this evidence is of value in assisting to prove that the two kinds of structures were coeval in date: or, at all events, that the circles must have been placed in position before the period when the sacred character attached to the avenue ceased to have an influence over the minds of the people who inhabited Dartmoor.

About a quarter of a mile from these enclosures is one of modern date, known as Erinepound. This was erected for the purpose, as its name implies, of impounding stray cattle. A single glance at this is sufficient to show that it is no old village, as we believe the others to have been. It bears all the evidence of a construction carried out for the purpose of forming an enclosure that should at the same time be hastily and inexpensively built. It is irregular in form, and comparatively small in size.

On Shaugh Moor, there is one that is circular in form; the walls being built with huge moorstone blocks, probably banked between with turf. Within this enclosure, there is but a single hut-circle, and that near the centre. About forty paces distant, on the hill-side, there are the remains of track-lines, made with huge blocks of granite placed on the ends, some near together, others more or less distant. There is an enclosure of irregular shape under Black Tor, and others under Mist Tor, etc.

Read by the light of the poor records that are yet left to us, and which are daily becoming obliterated, I think that we may conclude that we have in these mounds the remains of walled villages, the inhabitants of which, in times of security and peace, dwelt in the surrounding country, but when an enemy was known to be approaching they crowded within the fortified enclosures. The several stone huts outside the wall at the Yealm Head were, probably, watch-houses from whence the sentinels could always keep guard over the out-lying enemy without being observed himself.

The village at Kestor Rock is not so enclosed, but appears to have been inhabited by a people who enjoyed peace, for the numerous track lines that cross the hill-side leave the evidence of a people whose thoughts were given to the cultivation of the soil. So, also, were probably the tribes who peopled the neighbourhood of Rippon Tor.

The hut-circles in the neighbourhood of Kestor differ from all others that we know of on the moor, in having the surface of the ground excavated, the slope of the hill being cut away so as to make the floor of the huts level: a small fact, but one which suggests that the people endeavoured to make their houses comfortable, and therefore affords evidence of their long residence in the place.

In the neighbourhood of many of these villages (and, perhaps, at one time near them all) stand the remains of what are known as stone avenues, or Parallellitha.

These ancient megalithic remains are peculiar to Dartmoor, at least as far as this country is concerned.

In the Island of Lewes there is an avenue of nineteen stones leading to a circle of twelve others, known as the temple of Classerness, and Mr. Stuart, in his memoirs on stone circles, and alignments, says, that in Scotland the cairns have lines of pillars leading from them.

In Brittany an avenue of large stones leads to the Dracontium Temple of Carnac. But the avenues on Dartmoor appear to differ from either of these, and, although they have been described as *Vie Sacrae*, I think that we have little evidence to show that they were more than burial places for the honoured dead.

Of these avenues the most extensive are those found on Shuffledown Moore, near the Kestor Rock. Here they extend for about half a mile in length. They consist of five separate avenues and have been described by the Rev. Mr. Rowe and Mr. Ormerod in the Transactions of the Plymouth Institution. All the avenues in this neighbourhood have a more or less north and south direction. The first lies almost due north and south, and terminates in a triple circle of upright stones at the southern extremity.

The northern limit is not clearly defined, and is imperfect, but can be traced for about one hundred and forty paces. A second avenue, running S.S.E., is about the same length as the preceding, from which it is distant about thirteen yards. This second avenue has no apparent termination in any circle or cairn, but this may arise from its destruction through the passage of a track-line traversing it at the southern limit.

A third avenue commences a little to the west of the triple circle of stones, and runs in a S.S.E. direction, and terminates in a circle of stones, of which eight remain, enclosing a kist-vaen, the covering stone of which is gone. This avenue is in tolerable condition, though some of the stones are missing, and others have fallen; and is about one hundred and ten paces long. A few paces to the south a fourth avenue commences, in small stones, and runs in a direction almost due south, and is lost before it reaches its supposed termination in the Longstone Maen. Beyond this, Mr. Ormerod says that there was another, the stones of which have been removed for the purpose of building a wall, and only the pits remain in which the stones stood. This avenue is supposed to have reached a stone about two hundred and seventeen yards off, and which a short time since, with two others, was known as "The Three Boys." These stood in a triangular position, and were about four to five feet in height, the one that remains being about four feet six inches: they were probably the remains of an old cromlech. It will be observed that each of these five avenues has a feature peculiar to itself;—That which is the most northerly, and which we have called the first, terminates at the south extremity, in a triple circle of stones, circumscribing three central ones. These circles consist severally of ten, six, and eight stones. The second avenue appears to have no defined termination at either extremity. Mr. Ormerod is of opinion that it made a sudden curve to join avenue No. 3; but it appears to me rather as a recommence-

ment of No. 3, which would, had it continued, have interfered with the triple circle belonging to avenue No. 1. Avenue No. 3, terminates in a circle that enclosed a kist-vaen. Avenue No. 4 terminates at the southern extremity in a rock-pillar, while that of No. 5 ended in a cromlech. Avenues Nos. 4 and 5 are continuous, and it is not improbable that No. 4 is a prolongation of No. 5. All the avenues therefore commence towards the south and terminate towards the north, commencing in one with a cromlech, in another with an encircled kist-vaen, and in the third in a triple circle, each being a different mode of sepulture. Under Black Tor, near Princetown, there are two avenues, lying nearly east and west, the more northerly being a double row, the other consisting of a single row of stones. The first is nearly a furlong in length, and has on the right side forty stones in position, and on the left fifty, while the latter has but sixteen, and many of those very distant from each other. Both avenues terminate at the eastern extremity in a barrow encircled by stones. The stones that surround the more northerly barrow are larger than those which enclose the barrow of the less important avenue; in each case the barrows have either fallen in or been excavated. About midway between the sources of the Plym and Eylesburrow is a single row of stones. It runs from north-east to south-west, and has a circle of stones, tolerably perfect, at the northern extremity, of about thirty yards in circumference, and about three feet in height. There is a cairn within, the centre of which has fallen in, or has been rummaged by the treasure-seeker.

The line of stones consists of but a single row, and extends for eight hundred yards. The first two were about ten feet above the ground. The first had fallen so as to lean against the second, and both were on the incline. The first eight or ten stones declined in size until they reached, in the greater number, but one foot in height. Sixty of these were standing, with but little interception, about six feet apart, when came a hiatus of about thirty yards, after which we counted about sixty more, but from these many were missing in the row. A large stone seemed to mark the termination of the avenue, beyond which, at about a hundred yards, was a large cairn that evidently had been ransacked, and a portion of the stones carted away. This relic has never previously been observed, as I can find no record of it in Rowe's *Perambulation of Dartmoor*. From the large size of the stones at the north-eastern extremity, and the importance of the cairn within the circle, I look upon this as being one of the most interesting specimens of the kind in the locality.

On the western slope of the hill, the summit of which is crowned by the Great and Little Trowlsworthy Tors, in a line almost direct between Lee Moor Cross and the larger Tor, stand two paralloliths. The longer and more important is about seventy yards in length. The avenue consists of a double row of stones, of which fifty-three are standing on each side. But in Rowe's *Perambulation* it is spoken of as having sixty on the east side, and fifty-five on the west. The stones are generally about a yard apart. In many places the stones are missing, if the number is given correctly in Rowe's *Perambulation*.

(1830). A leat has been cut, dividing it in two, near the centre of the avenue. This no doubt has been the cause of some being removed, and when we visited it a few weeks since, a line of sticks was placed so as to suggest that some undertaking is likely to proceed that shall still further interfere with its entirety. The direction of the avenue is nearly east and west; it consists of stones about a foot or eighteen inches high, and terminates near a stream in a stone about five feet high. The opposite, or eastern extremity, terminates in a circle of eight stones, seven of which remain standing, and one has fallen. This circle is about seventy-five feet in circumference. All the stones are large, the largest being about five feet above the ground, and two feet in breadth. A few hundred yards to the west is a smaller and less important parallellithon. The direction of this avenue is nearly east and west, being in a line that leads direct to the sacred circle at the eastern extremity of the longer avenue. It consists of a double row of stones, of which sixty are on the northern side, and forty-two on the southern. Rowe says that there were forty-six on each side. At the southern extremity is a large stone about four feet high; the opposite extremity is terminated by another stone somewhat higher, and the only one that is standing of those that enclosed the sacred circle; most of them are, however, still lying where they once stood. The circle is about fifty-four feet in circumference.

On the southern side of Shell Top there stands a large cairn (pl. iv, fig. 4), that either has never been completed, or has been disturbed. From this cairn run southwards several pairs of stones, the remains of an old stone avenue. This cairn is not surrounded by a circle, and unlike many of the others is very distant from a stream, though it is not far from the fortified village previously described. There are other stone avenues recorded from other parts of the moor; one near Fernworthy circle, another under White Tor, Shavercombe Down, etc.; but of all that I have seen, the most perfect, the most interesting as being associated with other relics, and the most in danger from the ruthless hand of modern enterprise, are those at Merivale* Bridge (pl. vi. fig. 1). Two parallellitha are to be found at the distance of about half a mile from the river. They are situated on a broad open expanse, and where the turf is singularly free from heather or bush of any kind. The two run parallel, or nearly so, with each other. The shorter is about nine chains, or twenty-two yards less than one furlong in length. It lies slightly to the north and south of due east and west, and terminates in a circle at the eastern extremity, the stones of the avenue are about one foot to eighteen inches above the surface, and run in pairs through the entire length. The western extremity terminates abruptly, and appears as if some portion had been removed. But a little out of the direct line and beyond the termination of the existing avenue, stands a small circle, which stood probably on the side, since it would require a curve in the arrangement of the stones to enable the two to meet. No such curve is known to exist in any of our stone avenues, and there is no reason to suppose that it did in this

* Merivale, *Rowe's Dartmoor*; *Merriville, Ordnance Map.*

instance, and, by comparison with the other, there is every reason to believe that it did not.

The second avenue lies to the south of the one described, at about the distance of twenty-eight yards. It lies nearly parallel, inclining imperceptibly a little more to the north and south. It is about eleven chains, or one furlong and twenty-two yards in length. It consists, like the former, of a series of stones in pairs about a yard distant from each other. In this avenue there is a circle in the centre in which are the remains of a kist-vaen, and another circle, some have thought, at the western extremity. The eastern extremity terminates in one large stone, being about five feet high, much larger than those that form the avenue. (pl. vii, fig. 3).

Towards the western extremity, and about five-and-twenty yards south of the longer avenue, can be recognised the spot on which a cairn once stood. Rowe, in his *Perambulation of Dartmoor*, writes of it as dilapidated in 1848. It is now entirely removed; a few stones marking the circumference demonstrate the proportion that it once occupied. The stones of this ancient relic were removed for the purpose of metalling the neighbouring highway. Nor is this the only instance of a similar depredation.

I recently observed that a cairn on Warren Tor had been almost carted away, the stones that formed the kistvaen being left, though displaced in the centre, and a few cart-loads of stones at one extremity. Seeing a newly-built house at a short distance, I presumed that the stones were removed for the purpose of being used in the erection, although, like the cairn at Merivale Bridge, they may have been used for mending the roads.

Also a cairn near the ruins marked in the Ordnance map as Kings-oven, has been almost all removed, leaving the kist-vaen in a broken and dilapidated condition exposed to view. The side stones still stand, the one upright, the other fallen inwards. These are about three and a half feet long and two and a half feet broad.

Stones still mark the site, and show the circumference to have been about sixty yards. The removal of these relics, without any record of the contents that may have been observed, is a thing to be deplored and protested against.

I think I am correct in my observation that all these avenues lie either in a direction north and south, or east and west; that those in the same locality generally point in one direction; that one has characteristics distinct from the other; that a kist-vaen is generally connected immediately with the avenues, covered by a cairn or exposed; and that there is always a cairn detached and not very distant from them.

Reading their history by the poor light we have, they appear to speak of people of common habits, the uniformity of which is varied somewhat in the different tribes, and the intimacy with which they were associated.

Thus the several avenues on Shuffledown all have a north and south direction, and differ from one another only in the arrangement of the kist-vaen at the southern extremity.

At Merivale Bridge both the avenues lie nearly east and west : they differ from each other, the one having the circle in the middle, and the other at its eastern extremity.

On Eylesborough Common the direction of the avenue is north and south. The stones are arranged in a single row. A cairn stands at the northern extremity in a circle, and another still larger some forty yards to the south.

The cairn at the avenue under Shell Top is very large in circumference.

Under Trowlesworthy Tor, like one of those at Merivale Bridge, the kist-vaen, if there be any, is sunk in the soil, and no cairn has been raised over it.

Here also the two avenues vary more than anywhere else, one running north-east and south-west, the other nearly east and west ; and under Black Tor the two avenues differ in one having a double, the other a single row of stones.

It would appear that connected with each there are two places of sepulture, the one within the sacred circle, the other in a distinct, separate, and much larger cairn, at a little distance. I take it that the kist-vaen within the circle held the remains of the honoured dead, their priests, their counsellors, their successful warriors ; that whenever they opened the kist to receive their ashes, they planted a single stone, or a pair of stones, according to the custom of the tribe, to commemorate to posterity a fact so worthy of record ; and fortunate will be those modern worthies whose monuments will endure so long.

It will be observed that many of the avenues are longer than others, in those avenues some stones are larger than others, and that many of the cairns are larger than others.

The larger stones, though not invariably, stand near the circle. I have thought that these important stones may commemorate the deaths of the first interred, or founders of the tribe, and that the others are evidence of the merits of the individual. The length of the avenue, therefore, records the number of individuals interred, and to a certain extent the duration of the tribe. The large cairn that stands apart is the burial place of the many. Their bodies were burned, and with each interment each mourner added his portion of stones to the common heap. In this way I think we may account for the many cairns that lie scattered over Dartmoor in an incomplete or apparently disturbed condition. The deep hollows in the centre of many may perhaps be the evidence of their progressive condition rather than that of their desecration. Many of these cairns entomb a kist-vaen, but this is not invariably the case. On the south-eastern slope of Pin-beacon there stands a dismantled cairn, the centre of which contains an oval chamber, which is six feet broad by twelve long. The wall that surrounds it still stands five feet and a half high. The passage leading to it, though partially destroyed at the entrance, must have been five-and-twenty feet long by four broad. A few feet from the entrance, on the right side, is a second chamber, having two sides at right angles and the third rounded. There is a small shelf in the middle of the curved or third side. There were probably other

chambers, where the stones have been removed, and some may still be under the undisturbed portion of the cairn.

The kist-vaen is generally found beneath a cairn but sometimes it is found uncovered in different parts of the moor. There is one under Hound Tor, about one furlong towards the south, within a circle of closely placed stones, of which a few only are missing. One side and one endstone are all that remain of the kist. These are, one six feet long, the other rather more than two feet.

Another of similar description exists in Longcombe (pl. iv. fig. 3). Here the kist is three feet long by two feet nine inches broad and four feet deep. All the stones are in their places, except that the coverstone of the kist has fallen in. It is enclosed within a circle of nine upright stones, placed a small distance apart from each other. Within the circle the kist appears to have been surrounded by smaller stones, so as to form an even surface on a level with the mouth of the kist.

Another uncovered specimen stands near the high road, between Princetown, and Swincombe, which is in a tolerably perfect condition.

Under Hessay Tor is one much dilapidated, and remarkable for being double kisted.

At Merivale Bridge, associated with the avenues on the southern side, a few yards to the west of the centre, and a yard or two from the line, are the remains of a cromlech (pl. vii, fig. 1.)

This relic, although it has long had the capstone or quoit removed, probably by the yielding of one of the side stones, had all its parts perfect until the last summer, when upon visiting it I found it had been cleft in two by the experienced hand of skilled labour.

It is hard to believe that it has been done for any other object than that of wantonness, for the poor and discoloured quality of the stone is so apparent that its uselessness must have been visible to those who are accustomed to work on granite. The two halves remain on the spot, having fallen but a few inches asunder, and it may not be difficult to restore them to their original position, and so preserve this fast-disappearing relic. Beneath the stones is a deep hollow, that may have been the result of exploration, but I am inclined to believe that it has been occasioned by the frequent presence of cattle seeking shelter, beneath the covered structure, from the inclemency of the weather. The moisture settling in the hollow renders the soil so soft that it has been readily beaten down; the foundations of the supporting stones of the cromlech have been weakened so that they have given way sufficiently to throw the quoit from its place.

The size of the quoit before it was broken was about ten feet and a half long and four feet and a half broad, supported on three upright stones about four feet in height.

This cromlech in its relation to the avenue is one of those specimens that it is hard to believe were ever entombed beneath a mound of earth.

Tumuli, or earth mounds, although common in Devonshire and Cornwall, are rare on the Dartmoor, where, stone being abundant is universally used. This cromlech stands on the same grassy plain as the stones that form the avenue. No change in the relation of the one to the other appears to have taken place in the long ages that have elapsed since their erection, while the small stones still stand upon the

turf and around the hut circles ; the small embankment that supported the stones still remains.

Cromlechs on Dartmoor are not numerous. It may perhaps be that many, like those at Merivale Bridge, have been thrown down and destroyed. This was the fate of the finest specimen in Devonshire. In February, 1862, the Drewsteignton cromlech (pl. vii, fig. 2,) was blown down by a heavy storm, and probably, like that at Merivale Bridge, would have so continued, until the farmer might have found it to be his interest to break it up and cart it away to mend the road or repair a cowshed. In 1862 the cromlech fell, and in 1863, in the month of November, it was restored through the zeal of Mr. Ormerod.

As now standing (pl. vii, fig. 2) two of the upright stones are placed under the quoit, near the margin, while the third is outside of it, the edge of the quoit resting in a notch about eight or ten inches from the top. This, I believe, is not the original position, but when it had been raised to this point the firmness of its bearing, together with the difficulty of moving so great a mass, induced the restorer to let it rest. The quoit or capstone is calculated to be about sixteen tons in weight ; it is about fifteen feet long, and ten feet wide, and stands about six feet from the ground. It is a fine specimen of the kind, and is, I believe, the only one in Devonshire that is still in a state of preservation. It is off the moor-land, and stands in a cultivated field which belongs to an estate that is known by the name of Shilston, which Polwhele considers and shows its derivation from *Shilston*, or *Shelving Stone*, the word "shelf" being commonly pronounced in Devonshire as "shelv."

This cromlech is known in the neighbourhood as "Spinster's Rock," in consequence of the tradition that it was erected by three spinsters one morning before breakfast. These, Rowe, in his *Perambulation of Dartmoor*, poetically interprets into the three fates who are doomed to weave the thread of destiny.

There are two or three other cromlechs on the moor, but they are in a more or less dilapidated condition. Besides the one mentioned in connection with the parallellitha at Merivale Bridge, there is another in the same locality, which Rowe in his *Perambulation of Dartmoor* considers to be the ruins of a cromlech. "Within an imperfect circle, consisting chiefly, though not entirely, of upright stones, with the advantage taken of the natural position of some huge blocks to enclose a space of nearly one hundred and seventy-five feet in diameter. At the upper eastern end is a vast block, large enough to form one of the interior sides of an enclosure, having remains of walls at right angles, suggesting the idea of a resemblance to the adytum within the Druidical circle near Keswick. Thirty feet from this enclosure a large quoit-like stone (sixteen feet by nine feet eight) and three others, have all the appearance of supporters with their impost." The place to which this refers is traced all over with the remains of ancient hut dwellings, and other enclosures,—so much so, that it is difficult to believe but that every stone has its unwritten historical relation to the rest.

When many stones are scattered about, of all sizes, it is easier to select those that will fulfil the conditions necessary to erect a crom-

lech, than to assert with confidence that they were once used for the purpose. Another specimen of the kind Rowe describes, with rather more show of probability, as being the remains of a dismantled cromlech.

About a hundred yards from the gate which separates that portion of Dartmoor, which is known as "Corydon Ball," from the cultivated lands through which a road leads to South Brent, may be observed several massive stones in which the investigator will have no difficulty in discovering unequivocal evidence of a cromlech once standing on this spot, but now in ruins, and apparently overthrown by intentional violence, as the supporters are not crippled under the imposts, as if pressed down by the superincumbent mass, but are lying in situations where they could not have accidentally fallen. The third supporter stands erect in its original position, of a pyramidal form, only four feet high and five feet wide in the broadest part. The impost, or quoit, is eleven feet long, five feet at the widest end, and fourteen inches in average thickness. There are no other stones scattered around, so as to lead to the supposition that these are only large masses of granite, among many others, naturally thrown into these positions. The height of the supporters of the overthrown cromlech appears more adapted to the purposes of a kistvaen than of a cromlech, and it may also be observed that the monument stood on the verge of a large cairn, about sixty yards in circumference, which probably entombed it. A few score yards S.S.E. are the evident remains of another cairn; both were removed, doubtless to assist in building the boundary-wall adjoining.

Between Shavercombe Head and Trowlsworthy there stands a dismantled cromlech, or large stone kist. The stones that built the kist are all there, but the huge coverstone has been thrown off and rests on its end. The cromlech stands within a circle, some of the stones of which have been removed. Near this stand a circle and other remains of interest; but the granite of this locality is compact and good, much of it is being worked for exportation, and woe to the pre-historic records that stand in the quarryman's path.

Returning to the associated relics at Merivale Bridge, there exists still farther to the south, at about one hundred and thirty yards from the large avenue, a circle of stones, about sixty-six feet in diameter; these stones are now only ten in number, and are about eighteen inches above the surface of the ground. The turf within the enclosure is level and smooth; being desirous of ascertaining whether or not the place had been used as a burial place by our pre-historic ancestors, I had a trench cut from the centre southwards to the circumference without discovering any signs that there ever had been any previous disturbance of the soil, although we went as deep as what is locally termed the pan,—that is, the ferruginous deposit that immediately overlies the unbroken granite rocks. About five-and-twenty yards still farther to the south stands a tall obelisk, or maen-hir. This stone, an upright pillar of unhewn granite, about twelve feet in height and about two feet in diameter, of an irregularly square form, stands in the centre of a circle of upright stones, most of which have been removed. When examining the place some time

since, two stones I observed in such peculiar proximity to each other that I expected to have found them to be the sides of an entombed kistvaen; I therefore had an excavation made until I came to a flat stone that from its relation to the others appeared to be the cover-stone of the kist, but its removal shewed the subsoil of the country.

Circles of stones such as these are to be found on several parts of the moor. That on Scorshill is one of the most perfect. There are thirty-one stones, all of which are in position excepting two which have fallen. Rowe says that there are thirty-seven, two of which have fallen.

At Fernworthy the circle is in a good state of preservation (pl. viii, fig. 1), one stone only being absent from the perfect number of twenty-seven stones.

Under Sittaford Tor there are near together two circles of stones, about five feet in height, known as the Greywethers; of these many are gone, some having been recently removed, the places on which they stood being not yet grown over with grass, for the purpose apparently of repairing the sides of a leat that runs a few yards off; some stones still lie upon the ground where they once stood; but in the two circles which once comprised twenty-seven stones in each, nine only remain in one and eleven in the other.

This double circle bears a resemblance to the Hurlers near the Cheese Wring in Cornwall. They are the only two approximating circles in the locality. On the right bank of the Erme is a circle of which nineteen stones are in position (pl. viii, fig. 2). They are mostly about two feet in height, with the exception of one that is about five feet. From this circle, which is evidently one of those recognised as "sacred", a single row of stones, about three feet distant from each other, extends northwards for about two miles. Over the moor in a direct line it leads, and in its path crosses the river in a diagonal course and goes up the side of the hill straight to the summit. The object of this long line we supposed to have been for the purpose of guidance in foggy weather from the sacred circle to the village where the inhabitants mostly dwelt. Other lines of stones, more or less resembling this, and always leading to a cairn or circle, but neither so long nor so important, are to be seen on Butterton Hill, between the Erme and the Avon; these are generally much dilapidated, mostly from weathering. There are others of the same description under Belstone Tor, known as Nine Stones, besides, probably, some that as yet have been unrecorded. These circles have long been known as temples, or sacred places, but Mr. Stuart has of late endeavoured to overthrow that belief; but surely if these old inhabitants had any sacred or mysterious rites, such circles were probably the sites.

In the neighbourhood of Corydon Ball there are the remains of an extensive avenue of which I know no similar one on Dartmoor. It evidently consisted of seven or eight rows, and extends at least for a hundred yards. Many of the stones are missing, and of those that remain many are small and unimportant, being almost entombed within the surrounding soil; at the eastern extremity about seven stones lie in a position relative to each other, that suggests the idea of their having been a portion of a circle of which the greater part

has been removed. These stones more than anything else reminded me of the Sarsden stones of Berkshire. A short distance from these stones are the remains of what must have been a huge cairn, beneath which must once have been hidden several large stones, evidently the parts of the fine cromlech or kistvaen previously mentioned; itself lying prostrate, while the stones that formed the cairn were used to build a neighbouring wall. This fallen cromlech as much as anything else, tells us that beneath the numerous cairns that are scattered over Dartmoor many such relics still lie entombed, the contents of which it would be desirable to have examined, as they may yet assist us to read an unwritten page in the history of the old people of Dartmoor.

EXPLANATION OF PLATES III TO VIII.

PLATE III.

- Fig. 1. Section of restored hut-dwelling on Dartmoor.
- Fig. 2. External view of restored hut-dwelling.
- Fig. 3. Hut built in wall of enclosed village at Yealm Head.
- Fig. 4. Hut-circle, with central group of stones, on Saddleborough.
- Fig. 5. Beehive hut on the Avon.
- Fig. 6. Beehive hut on the Erme.

PLATE IV.

- Fig. 1. Beehive hut, with short passage leading thereto, on the Avon.
- Fig. 2. Sectional elevation of beehive hut. (Supposed restoration.)
- Fig. 3. Kistvaen at Longcombe.
- Fig. 4. Ground plan of cairn under Shell Top.

PLATE V.

- Fig. 1. Plan of ancient military encampment on western slope of Trowlsworthy Tor.
- Fig. 2. Plan of parallellithon, and two walled villages near Erme Head.
- Fig. 3. Structure of wall at Erme Head.
- Fig. 4. Structure of wall of walled village at Yealm Head.

PLATE VI.

- Fig. 1. Parallellitha at Merivale Bridge.
- Fig. 2. Cromlech near Trowlsworthy Tor. (Restored.)

PLATE VII.

- Fig. 1. Cromlech at Merivale Bridge. (Restored).
- Fig. 2. Cromlech at Drewsteignton.
- Fig. 3. Menhir, circle, and parallellithon at Merivale Bridge.

PLATE VIII.

- Fig. 1. Circle at Fernworthy.
- Fig. 2. Circle on Staldon Moor.

DISCUSSION.

MR. WALTER MORRISON, M.P., called attention to the analogy between the architectural character of the old Dartmoor huts and of those which are to be seen at the present day in the Hebrides. In each are found the two concentric circles of stones, filled in with peat, and with a roof of drift or other timber thatched with peat. Mr. Bate's suggested restoration of the old Dartmoor huts might stand for a representation of a modern Hebridean cabin. Were then the dwellers in the Dartmoor huts Celts, as the inhabitants of the Hebrides were Celts, with a large admixture of Norse blood? But the circular form of hut is so common in all parts of the world that little could be

founded on that fact. These Dartmoor villages and huts, however, were usually connected with ancient tin workings. The old legends of Europe seemed to connect with the arts of metallurgy the dwarfs, who, perhaps, could be identified with the small dark-skinned races allied to the Lapps and Basques, and of whom traces are to be found in many corners of Europe. Some of these Dartmoor huts might be, no doubt, comparatively modern, but the stone avenues and circles in connection with others pointed to a distant antiquity, at least as old as the Roman occupation.

DR. A. CAMPBELL, V.P., said, that the long rows of loose stones described by Mr. Bate appeared to him to be indisputable signs of cultivation, as they were in many parts of the Highlands of Scotland, and in the Himalaya mountains, where the level land was scanty and the soil was poor and encumbered with stones. Whether they were evidence of cultivation in very ancient times, or within a legendary or more recent period, was the question of importance to be solved.

MR. MOGGRIDGE made some remarks in reference to the orientation of the ancient hut circles, which, though generally on south-eastern slopes, are not uniformly so placed. One of the Precilly hills, in Pembrokeshire, is crowned by a fine old British camp. Both within and without the lines of fortification are many of these circles. The ground slopes to different points of the compass, and the entrance is at the lowest part of the circle; indeed, this could hardly be otherwise, or the dwelling would be flooded in heavy rains. The same, to a smaller extent, may be seen at Mynydd Carn Goch, in Carmarthen-shire.

MR. A. L. LEWIS observed that there were avenues of stones in Shetland similar to those described by the author, some of which were in connection with tumuli and others were not. Referring to the fact noticed by the Author, that these avenues all ran in certain special directions by compass, he pointed out that most of the circles had a single stone outside in a north-easterly direction (besides others frequently lying to the south). These detached stones were of the greatest importance, as they proved a unity of purpose, not only between the various circles in Britain, but between them and those in India, which were known to be used for sacrifice, and had similar outlying stones. This coincidence had not been much noticed, and it had consequently happened that the outlying stones had been frequently overlooked altogether, although, in a certain sense, of more importance than all the other stones together. The depressions in the tops of some of the cairns, he said, were probably caused by the falling in of the kists beneath. He had long been of opinion that the dolmens were not all originally covered, or, indeed, sepulchral. The "Spinster," at Drewsteignton, for instance, was not suitable for a sepulchral chamber, nor had any interment been found beneath it, and it was therefore reasonable to suppose that its object was not sepulchral, but perhaps sacrificial, or monumental.

COL. LANE FOX, MR. BLACK, and DR. CAMPBELL also joined in the discussion, and MR. SPENCE BATE briefly replied.

JANUARY 10TH, 1871.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellow was announced : FRANCIS HEWITT, Esq.,
Lawn Court, Richmond Road, New Barnet.

Dr. J. D. HOOKER, C.B., exhibited several stone implements from
Maasset Harbour, Queen Charlotte's Island ; and a stone arrow-head
from Cloverdale, Vancouver's Island.

Colonel A. LANE FOX exhibited some artificially-distorted skulls
from Vancouver's Island.

The following paper was read :

XIII.—*On the PREHISTORIC REMAINS in BRITTANY.* By Lieut. S. P.
OLIVER, R.A., F.R.G.S., Corresponding Member of the Ethnological
Society of London.

CONTENTS.

- § I. Introduction.
- § II. Alignments and Circles of Carnac.
- § III. Alignments of Crozon near Brest.
- § IV. On the connection between these alignments and other megalithic
remains in their neighbourhood.
- § V. Characteristic features of tumuli.
- § VI. Predominance of fibrolite celts in interior finds.

§ I. *Introduction.*—The *Société Polymathique*, of the department of
the Morbihan, has for many years been occupied in the explora-
tion of the numerous dolmens and tumuli in the surrounding district,
and from time to time has published various pamphlets (written princi-
pally by Messrs. Galles and De Cussé), from which much interesting
matter and information may be gleaned.

By the exertions of the same society a small, but well-selected,
museum of objects found within the dolmens has been formed at
Vannes, which well repays a visit from the student of prehistoric
archæology, the contents being carefully assorted with regard to the
localities in which they were found.

Unfortunately, the French *savans* appear to have confined their
labours to the contents and interior-finds of the dolmens, and have
contributed but little to our knowledge of the structures themselves
(many of which indeed have been ruined by the workmen employed
to rifle them of their treasure) ; whilst hitherto, beyond a few vague
speculations, they have altogether neglected the much-required exami-
nation of the vast circles and alignments of stones which are amongst
the most conspicuous and renowned relics of prehistoric times in
Brittany.

It is only recently that a useful map (on a convenient scale) of the
coasts and inland archipelago, as it may be termed, of the Golfe du
Morbihan has been published by Mons. Bassac—a map which, as

regards all the information topographical or archæological which it professes to give, is fairly accurate; but this information is confined solely to the actual vicinity of the coast-line of the gulf; and it is much to be feared that the present national troubles will retard the publication of additional sheets for some considerable time.

Looking at this map we are instantly struck with the enormous number of the dolmens scattered broadcast, as it were, over the country; but, on observing closely, it will be noticed that they are more particularly numerous on the sea-coast and river-bank. Indeed, there is hardly a headland throughout the coasts of the Morbihan and Finistère without its tumulus, cromlech, or menhir.

Confining ourselves to M. Bassac's map, it is noticeable that the western coasts of the gulf, between *Vannes* and *Locmariaker*, with the adjacent islands, as well as both promontories forming the narrow entrance to the *little sea*, are conspicuous for the number of these same dolmens and peulvans; whilst on the eastern coast, between *Larzeau*, *St. Colombière*, and *Noyalo*, there are absolutely none,—a fact to which we shall shortly refer again.

It is also evident that there are no alignments of peulvans or avenues of upright stones found east of the *Crach* river, although circles without associated avenues are found both on the *Ile aux Moines* and on the *Ile du Tisserand*.*

With the exception of the avenues west of the *Crach* river, the most important aggregation of dolmens and the largest menhirs (one indeed the largest known, viz., *Le Grand Menhir*, seventy feet in length) is to be found on the promontory of *Locmariaker*, between the tidal estuaries known as the *Rivière d'Auray* and the *Rivière du Crach*. It is near here also, on the neighbouring island of *Gavr'Inis* and at *Petit Mont* on the opposite promontory of *Arzon*, that the ornamentation of the interior of the dolmens by archaic sculpture has been most elaborately developed.

The celebrated stone avenues of *Carnac* consist of a series of *Alignments* in the commune of that name, and, according to M. Bassac, extend from the borders of the Commune of *Trinité*, at the north-eastern extremity, with (according to the map) a continuous winding course to a spot some two miles and a half to the south-west, between the villages of *Carnac* and *Plouharnel*. But although this is almost the sole example of inaccuracy of the compiler of the map, still it is an unfortunate one; for M. Bassac has fallen into the same error which has hitherto misled most, or rather all, the writers and topographers preceding him.

It has always been taken for granted that these alignments were continuous, and it is to the careful measurement and plans of the Rev. W. Lukis that we are indebted for his first discovery, that there are intervals between these lines, which, in fact, consist of three separate sets or groups, each totally distinct from the others.

For three or four successive seasons the Rev. W. Lukis, assisted by

* Mr. W. C. Lukis mentions a portion of a circle as existing on the *Ile el-Lanic*, which name is not marked on the map; it is probably identical with the *Ile du Tisserand*.

Sir H. Dryden, Bart., has been steadily at work surveying and plotting out these alignments, and the results of his labours have dispelled many erroneous ideas with which most visitors have been carefully impressed from the perusal of all former descriptions of these monuments.

In the mean time let us pursue our topographical survey of the position of the other similar remains, after which we will return to describe the Carnac lines themselves in detail. Two miles distant from the Carnac lines, in a north-west direction, is a group of alignments near the village of St. Barbe, and two miles again to the north of these, is a most important series of lines near Erdeven. The last group which may be considered as belonging to this immediate district, is the remarkable group of lines at St. Pierre, on the sandy peninsula of Quiberon, about two miles south of Fort Penthièvre. Not that these are all the alignments to be found in Brittany; on the contrary, there are several others to be found in the same department, as at Plouhinec, and somewhat similar remains, although on a smaller scale, exist at St. Juste, in the department of the Ile-et-Vilaine, and others on the peninsula of Crozon, south of Brest, in Finistère, which however are but little visited, and scarcely known to the neighbouring residents.

The table on the opposite page gives the relative size, position, etc., of the principal alignments in Brittany, twelve in number.

Besides these said alignments, which still exist in their proximate original position, there are also found throughout Brittany various confused assemblages of large stones, termed *Carneiloux* (Celts-Breton for Burying-grounds), which, although they are often looked upon as belonging to a separate class of monuments, are doubtless only the ruined remains of alignments, or circles, or both combined; for we have only to look at the western extremity of the Erdeven lines to see how, in modern times, the regular alignments have been converted into a confused ruin. The high road, which by a slight diversion might have been made to avoid the remains of the most gigantic of all the known alignments, has been ruthlessly carried straight through the most interesting portion of the monument, and the huge stones cast aside out of the way, so that it is impossible to discover their original position. The huge blocks thus rudely disturbed, present to the view a distressing ruin; their enormous size, however, attests to the former magnificence of what must have been an imposing monument in its primal state.

Mr. Lukis has called the attention of the Morbihan Society to the work of destruction that is taking place amongst these structures, "thereby rendering the problem of their construction and destination more and more difficult of solution," and lately a memorial (signed by Sir John Lubbock, on behalf of the Committee of the International Congress of Prehistoric Archaeology) has been forwarded to the Prefet of the Morbihan on the subject. The late Imperial Government certainly went so far as to order the preservation of, or rather to interdict, the demolition of these national monuments, but, at the same time, the local authorities have been only too neglectful of enforcing this interdict; and the most flagrant case of destruction which actually

founded on that fact. These Dartmoor villages and huts, however, were usually connected with ancient tin workings. The old legends of Europe seemed to connect with the arts of metallurgy the dwarfs, who, perhaps, could be identified with the small dark-skinned races allied to the Lapps and Basques, and of whom traces are to be found in many corners of Europe. Some of these Dartmoor huts might be, no doubt, comparatively modern, but the stone avenues and circles in connection with others pointed to a distant antiquity, at least as old as the Roman occupation.

DR. A. CAMPBELL, V.P., said, that the long rows of loose stones described by Mr. Bate appeared to him to be indisputable signs of cultivation, as they were in many parts of the Highlands of Scotland, and in the Himalaya mountains, where the level land was scanty and the soil was poor and encumbered with stones. Whether they were evidence of cultivation in very ancient times, or within a legendary or more recent period, was the question of importance to be solved.

MR. MOGGRIDGE made some remarks in reference to the orientation of the ancient hut circles, which, though generally on south-eastern slopes, are not uniformly so placed. One of the Precilly hills, in Pembrokeshire, is crowned by a fine old British camp. Both within and without the lines of fortification are many of these circles. The ground slopes to different points of the compass, and the entrance is at the lowest part of the circle; indeed, this could hardly be otherwise, or the dwelling would be flooded in heavy rains. The same, to a smaller extent, may be seen at Mynydd Carn Goch, in Carmarthenshire.

MR. A. L. LEWIS observed that there were avenues of stones in Shetland similar to those described by the author, some of which were in connection with tumuli and others were not. Referring to the fact noticed by the Author, that these avenues all ran in certain special directions by compass, he pointed out that most of the circles had a single stone outside in a north-easterly direction (besides others frequently lying to the south). These detached stones were of the greatest importance, as they proved a unity of purpose, not only between the various circles in Britain, but between them and those in India, which were known to be used for sacrifice, and had similar outlying stones. This coincidence had not been much noticed, and it had consequently happened that the outlying stones had been frequently overlooked altogether, although, in a certain sense, of more importance than all the other stones together. The depressions in the tops of some of the cairns, he said, were probably caused by the falling in of the kists beneath. He had long been of opinion that the dolmens were not all originally covered, or, indeed, sepulchral. The "Spinster," at Drewsteignton, for instance, was not suitable for a sepulchral chamber, nor had any interment been found beneath it, and it was therefore reasonable to suppose that its object was not sepulchral, but perhaps sacrificial, or monumental.

COL. LANE FOX, MR. BLACK, and DR. CAMPBELL also joined in the discussion, and MR. SPENCE BATE briefly replied.

JANUARY 10TH, 1871.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellow was announced : FRANCIS HEWITT, Esq.,
Lawn Court, Richmond Road, New Barnet.

Dr. J. D. HOOKER, C.B., exhibited several stone implements from
Maasset Harbour, Queen Charlotte's Island ; and a stone arrow-head
from Cloverdale, Vancouver's Island.

Colonel A. LANE FOX exhibited some artificially-distorted skulls
from Vancouver's Island.

The following paper was read :

XIII.—*On the PREHISTORIC REMAINS in BRITTANY.* By Lieut. S. P.
OLIVER, R.A., F.R.G.S., Corresponding Member of the Ethnological
Society of London.

CONTENTS.

- § I. Introduction.
- § II. Alignments and Circles of Carnac.
- § III. Alignments of Crozon near Brest.
- § IV. On the connection between these alignments and other megalithic
remains in their neighbourhood.
- § V. Characteristic features of tumuli.
- § VI. Predominance of fibrolite celts in interior finds.

§ I. *Introduction.*—The *Société Polymathique*, of the department of
the Morbihan, has for many years been occupied in the explora-
tion of the numerous dolmens and tumuli in the surrounding district,
and from time to time has published various pamphlets (written princi-
pally by Messrs. Galles and De Cussé), from which much interesting
matter and information may be gleaned.

By the exertions of the same society a small, but well-selected,
museum of objects found within the dolmens has been formed at
Vannes, which well repays a visit from the student of prehistoric
archæology, the contents being carefully assorted with regard to the
localities in which they were found.

Unfortunately, the French *savans* appear to have confined their
labours to the contents and interior-finds of the dolmens, and have
contributed but little to our knowledge of the structures themselves
(many of which indeed have been ruined by the workmen employed
to rifle them of their treasure) ; whilst hitherto, beyond a few vague
speculations, they have altogether neglected the much-required exami-
nation of the vast circles and alignments of stones which are amongst
the most conspicuous and renowned relics of prehistoric times in
Brittany.

It is only recently that a useful map (on a convenient scale) of the
coasts and inland archipelago, as it may be termed, of the Golfe du
Morbihan has been published by Mons. Bassac—a map which, as

deserted in transit towards their contemplated position. The Kervario group also differs from the Menec group, in having only ten lines of stones, forming, however, similar converging avenues, although of greater length and importance; they extend from their south-western extremity, where they are twelve yards in width, in a general north-easterly direction, down a gentle slope, up the rise, and across the highest point of another hill, on the summit of which and in the midst of the lines, stands the *Moulin des Kernaux*, they descend across the *lande* into a valley, and across a small brook, and ascend another sloping hill where their uncertain termination is lost in the fields and pine plantations of the *Château de Kercado*. The total length of these lines is about twelve hundred and fifty yards. It must be borne in mind that these lines are not absolutely straight, but that at each crest of hill, or hollow of brook, or change of level, there is generally observable some slight deviation in direction, which has probably arisen from error in the original laying out of the lines, and not from any intention of forming them with a serpentine trace on the part of their original constructors, as some writers would have us to believe. There is one fact, however, which their small deflections prove, and that is that the country presented the same features and outline of contour when these alignments were planned as at present; at all events that its character cannot have materially altered since those days.

The third group to be described, viz., the *Kerlescant lines*, is four hundred yards beyond the last series, and differs considerably both from the *Kervario* and *Menec* monuments. Here there is a terminating enclosure (somewhat of horse-shoe form rather than a complete circle), having a diameter of ninety-six yards, and associated with thirteen lines of stones extending in much the same direction as the last named groups, i. e., to the north-east, but much shorter than they are, in fact, one quarter of their length, two hundred and eighty-six yards, and yet the breadth at the western end is as broad as the Menec series, viz., one hundred and ten yards, giving to each avenue an average breadth of nine yards, which rapidly converges to five yards at the north-east extremity, which is extremely abrupt and well defined. The eight southern lines alone are opposite the horse-shoe enclosure, whilst in a corresponding position, opposite the five northern lines, is a long unchambered barrow, with a conspicuous menhir at its western extremity. Again, the avenue between the fifth and sixth lines is of a greater width throughout its entire length than the others, the lines composing it being nearly parallel.

There is also a certain symmetry observable, taking the whole thirteen lines together, there being a centre group of three lines, on either side of which is a broader avenue tolerably parallel; beyond, again, on either side is a group of five lines converging, the breadths between which are largest on the outermost side.

Such is the description of the celebrated Carnac lines; but before we consider their characteristic features, it may be as well to give a short account of some other alignments which lie in the immediate neighbourhood.

Sir H. Dryden, Bart., has been steadily at work surveying and plotting out these alignments, and the results of his labours have dispelled many erroneous ideas with which most visitors have been carefully impressed from the perusal of all former descriptions of these monuments.

In the mean time let us pursue our topographical survey of the position of the other similar remains, after which we will return to describe the Carnac lines themselves in detail. Two miles distant from the Carnac lines, in a north-west direction, is a group of alignments near the village of St. Barbe, and two miles again to the north of these, is a most important series of lines near Erdeven. The last group which may be considered as belonging to this immediate district, is the remarkable group of lines at St. Pierre, on the sandy peninsula of Quiberon, about two miles south of Fort Penthièvre. Not that these are all the alignments to be found in Brittany; on the contrary, there are several others to be found in the same department, as at Plouhinec, and somewhat similar remains, although on a smaller scale, exist at St. Juste, in the department of the Ile-et-Vilaine, and others on the peninsula of Crozon, south of Brest, in Finistère, which however are but little visited, and scarcely known to the neighbouring residents.

The table on the opposite page gives the relative size, position, etc., of the principal alignments in Brittany, twelve in number.

Besides these said alignments, which still exist in their proximate original position, there are also found throughout Brittany various confused assemblages of large stones, termed *Carneilloux* (Celtic-Breton for Burying-grounds), which, although they are often looked upon as belonging to a separate class of monuments, are doubtless only the ruined remains of alignments, or circles, or both combined; for we have only to look at the western extremity of the Erdeven lines to see how, in modern times, the regular alignments have been converted into a confused ruin. The high road, which by a slight diversion might have been made to avoid the remains of the most gigantic of all the known alignments, has been ruthlessly carried straight through the most interesting portion of the monument, and the huge stones cast aside out of the way, so that it is impossible to discover their original position. The huge blocks thus rudely disturbed, present to the view a distressing ruin; their enormous size, however, attests to the former magnificence of what must have been an imposing monument in its primal state.

Mr. Lukis has called the attention of the Morbihan Society to the work of destruction that is taking place amongst these structures, "thereby rendering the problem of their construction and destination more and more difficult of solution," and lately a memorial (signed by Sir John Lubbock, on behalf of the Committee of the International Congress of Prehistoric Archaeology) has been forwarded to the Prefet of the Morbihan on the subject. The late Imperial Government certainly went so far as to order the preservation of, or rather to interdict, the demolition of these national monuments, but, at the same time, the local authorities have been only too neglectful of enforcing this interdict; and the most flagrant case of destruction which actually

At *Kerzine*, near *Plouhinec*, are eight lines of stones in a very dilapidated state, extending one hundred and fifty yards, whilst in the same neighbourhood, at *Keroenthue*, is a line of four large stones, with a detached one at some distance: the largest of these measures sixteen feet long by nine feet broad and five thick.

On the sandy spit of *Quiberon*, south of Fort *Penthièvre*, are the alignments of *St. Pierre*. They are remarkable as being detached from the neighbouring circle, which stands ninety-five yards to the south-west of them. Traces of only five lines now remain, some of which extend a distance of two hundred yards to the coast line, and possibly before the encroachment of the sea they extended still further.

We will now proceed to consider certain noticeable facts which Mr. Lukis has established in connection with the principal features of these great monuments. (*Vide* "The Stone Avenues of Carnac," a paper read at the Blackmore Museum at the meeting of the Wiltshire Archæological Society, 1870, by the Rev. W. C. Lukis, M.A., F.S.A., etc.) They are as follows:—

1. "The lines do not lie strictly east and west, but vary a little to the north and south."

2. "The narrow end is invariably eastward, and the head or wide part is toward the west end, and on elevated ground."

Referring to these features further on, Mr. Lukis remarks,—

"There is a feature which is common both to groups of rows of stones and to the sepulchres which may help to throw some light on the subject, viz. their *orientation*. By far the larger number of the sepulchral monuments, those I mean which are usually termed dolmens, have their entrances between the east and south points of the compass, i.e., nearly ninety per cent are so turned, which it must be admitted cannot be an accidental circumstance. So, too, the avenues are *similarly orientated*. If, therefore, the builders of the tombs had a religious reason for this arrangement, the same motive must have been dominant in the minds of the constructors of the avenues; and the inference is not without force, that the *same people erected both*. This arrangement may be a token of their religious reverence for the deified orbs of heaven, the sun and moon."

To this we would add, that this *orientation*, which is attributed to all these monuments, is well substantiated as regards the dolmens and tumuli; but on looking at Sir Henry Dryden's map of the Carnac district (see pl. ix), and the position of the stone avenues shown thereon, we cannot fail to remark that the lines of *St. Barbe* and *St. Pierre* are at a very considerable angle to the direction of those of *Menec* and *Kervario*; and again, whilst the prevailing point of the entrance to the dolmens is south-east, the general direction of two of the three *Carnac* groups of alignments is considerably north of east. The alignment of *Gatjar*, on the promontory of *Crozon*, presently to be described, cannot well be termed *orientated*. (Compare the points of the compass given in the table of principal alignments.)

3. "The stones are always largest at the western termination, and of small size in the other direction. In the *Menec* and *Erdeven* groups

came under our eyes this last summer, was the gratuitous tumbling down of portions of the avenues of Menec, by the workmen employed by the authorities of the department themselves on the road between Carnac and Auray.

Besides these *Carneilloux*, De Freminville and other French authors allude to many analogous remains, indiscriminately, as *Cimitières Celtiques*.

§ II. *The Alignments and Circles of Carnac and its Neighbourhood.*—The famous lines of Carnac are, as before mentioned, reducible to three groups, which are named for convenience, after the villages, farms, and homesteads, nearest to them, viz., the lines of *Menec*, *Kermario*, or *Kervario*, and *Kerlescant*. It is, however, more than probable that these farms and properties acquired their names from the circumstance of the stones standing on the land belonging to them; according to Lepelletier's *Celto-Breton Dictionary* the word *Menec* signifies a memorial or *souvenir*, and *Kervaro* (*Kervario*) the place of death. The words *Carnac* and *Carneilloux* are similarly identified with Celtic words signifying a charnel-house or ossuary.

Commencing with the group nearest Carnac, we find a circle of stones, or rather the remains of one, on a slight elevation, enclosing several of the farm-buildings and dwellings of the village of Menec; this enclosure is somewhat elliptical, its largest diameter being ninety-two yards, and its shortest eighty yards across. This circle forms the south-western limit of a series of eleven stone alignments, forming ten avenues, stretching from this eminence in a north-easterly direction, over undulating ground, sloping generally to a lower level, for a distance of one thousand and twenty-five yards. The southernmost lines of these alone meet the circle, the remainder terminating abruptly. The breadth of these avenues at their termination nearest the circle averages eleven yards, but the lines forming them are not paralleliths, as they converge gradually towards the north-eastern termination to half the width, viz., from five to six yards; the size also of the stone pillars which compose the lines diminishes by degrees to an insignificant size in comparison with the fine blocks at the west, although at the verge of the north-eastern limit are some slightly larger stones. The largest stones in this group measure 14 ft. \times 12 ft. \times 5 ft., 9 ft. 6 in. \times 9 ft. 3 in. \times 4 ft., etc.

The next group we come to, that of Kervario, has its largest blocks (the largest in the three groups near Carnac, some measuring 20 ft. \times 12 ft. 6 in. \times 8 ft.; 17 ft. 6 in. \times 9 ft. 6 in. \times 5 ft.; 7 ft. high, 42 ft. in circumference, etc.) on a considerable eminence, about six hundred yards to the north-east of the Menec lines just described, and in almost the same line with them,—a fact which has led people to suppose that they were in continuation of, and part of the same system, ignoring the palpable interval between the separate groups.* Here there is no terminal circle, as at Menec, at present; but some scattered masses of no inconsiderable size may perhaps indicate vestiges of an enclosure as having formerly existed. But it is also possible to look upon these erratic blocks as having been dropped and

* Sir Henry Dryden and the author measured this group in June 1870.

deserted in transit towards their contemplated position. The Kervario group also differs from the Menec group, in having only ten lines of stones, forming, however, similar converging avenues, although of greater length and importance; they extend from their south-western extremity, where they are twelve yards in width, in a general north-easterly direction, down a gentle slope, up the rise, and across the highest point of another hill, on the summit of which and in the midst of the lines, stands the *Moulin des Kernaux*, they descend across the *lande* into a valley, and across a small brook, and ascend another sloping hill where their uncertain termination is lost in the fields and pine plantations of the *Château de Kercado*. The total length of these lines is about twelve hundred and fifty yards. It must be borne in mind that these lines are not absolutely straight, but that at each crest of hill, or hollow of brook, or change of level, there is generally observable some slight deviation in direction, which has probably arisen from error in the original laying out of the lines, and not from any intention of forming them with a serpentine trace on the part of their original constructors, as some writers would have us to believe. There is one fact, however, which their small deflections prove, and that is that the country presented the same features and outline of contour when these alignments were planned as at present; at all events that its character cannot have materially altered since those days.

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The most extensive of all the lines as to length, is to be found not far from the village of *Erdeven*. This series stretches from the road south of the village towards the south-east, for a distance of over a mile and a half. There are, as far as can be made out (for there is sometimes considerable difficulty in tracing the separate lines), ten lines of stones nearly parallel; their convergence is but slight, their breadth at the western extremity being two hundred and twenty, while at the eastern end it is one hundred and ninety feet. But it must be remembered that these alignments are not actually traceable throughout the whole extent of this long tract of land; on the contrary, about half way there is an eminence upon which are four dolmens and a long barrow, and here all traces of the line are confused and lost for some distance, but the same number of lines occur again further east, and continue to a spot not far from the huge dolmen of *Concremeau*, and it is presumed that these lines formed a continuation of the same series. There is a slight deviation between the direction of the eastern and western portions, but only of three degs., the western portion being 117 degs., and the eastern 120 degs. to east of the meridian.

From near the head of these lines is an alignment consisting of twenty-five stones, extending in a north-east direction (42 degs. east of north) for a distance of three hundred and fifty-four feet. The stones are at present all prostrate, excepting erect menhirs at either end. They are all large stones, in fact, the largest in bulk to be found throughout the whole series of alignments in Brittany, the largest measures twenty-one feet six inches long, by ten feet broad, and five feet thick; two other blocks lying close alongside this stone, are within a few feet of the same dimensions.

What the meaning of this diagonal line, outlying the main body of the *Erdeven* lines can be, must be a mere matter of conjecture. It is certain that the blocks lie close together, as those composing the circles at *Menec* and *Kerlescant*; if this, therefore, was a portion of a circle, it is the sole example of one found north of the accompanying lines. At the eastern extremity of the lines, but at a small distance, is an enclosure of stones nearly oblong, measuring one hundred feet long by eighty-five broad.

The *St. Barbe* lines are not a very remarkable group. Here traces of three lines exist for a distance of three hundred yards. A few of the stones at the head of these lines are of great bulk, the two largest measuring fourteen feet high each, and twelve feet broad, and seven feet thick in one instance, and eleven feet broad by four feet seven inches thick in the other. At a short distance to the west of these alignments are four stones, which may indicate vestiges of a circle, but they are very doubtful.

Eastward again, and at some considerable distance, are three conspicuous stones near the mill of *Plouharnel*. They are called "*Les trois pierres du vieux moulin*." The largest is prostrate, and measures sixteen feet long, eleven feet broad, and five feet thick. The two others standing are respectively twelve and eight feet in height. It is possible that they originally formed the head of a group of alignments.

horse-shoe or omega-shaped tombs which in some cases are associated with analogous approaches. Although not covered by artificial tumuli, the sepulchral chambers are excavated in the side of the natural hills, whilst those belonging to high officials are approached through avenues of stone pillars and carved figures, animal and human, although on a much smaller scale than those of Pekin and Nankin. A sketch of a group of these tombs, said to be those of former governors of Canton, at the foot of the White Cloud mountains, is exhibited.

Now we may venture to assume that all cromlechs, dolmens, kists, and other sepulchral stone chambers of every description, were originally covered with tumuli. Some of the tumuli appear to have had their bases strengthened by revetments or boundary walls of large upright stones. In Great Britain and the Channel Islands we frequently find that the tumuli have disappeared, leaving the structures thoroughly denuded of the smaller stones, earth, or sand which originally covered them, whilst the large blocks forming the revetment remain, and have been generally termed "*peristaliths*." These features certainly are unusual in Brittany, where, however, there are some examples, at Kerlescant, Plouneour, and elsewhere. Now we venture to suggest that the circles of stone in Brittany and elsewhere may be looked upon as the possible remains of colossal "*peristaliths*," the sole indications of gigantic tumuli which may formerly have filled their interior space, and which have now disappeared by atmospherical, aqueous, and human agencies during the lapse of centuries. Nor need we much wonder if no trace of the actual sepulchral chambers within be left, when we consider that the largest tumuli have generally been found to contain the most insignificant kists; besides, it is far from improbable that the builders of the huge mounds, such as those at Mont St. Michel, etc., in the immediate neighbourhood of the lines and circles, constructed their barrows from the material afforded by the débris of the more ancient tumuli within the circles.

Anyhow, whether there were actually tumuli or not within these circular enclosures, the sepulchral theory seems the most fitting conclusion to arrive at; and if this be so, then the avenues may be looked upon as approaches of a ceremonial character connected with funeral rites, not necessarily only those which *preceded* interment, but for *subsequent* visitations, as shewn by the permanent construction of these monuments, which were evidently intended to last through future ages.

As to this day in China the clans and families annually revisit the tombs of their ancestors for the purpose of worship and sacrifice, repairing and cleaning the graves, and placing food for the dead, etc., so through the alignments of Brittany may have passed at stated periods of time to do honour to the resting-place of their forefathers, the descendants of those whose bones rested within the sepulchral circles.

The various theories which have been advanced from time to time as to the destiny of these alignments are so numerous that it would be almost impossible to notice more than a few of them.

Dr. Thurnam has given up the *ophite* or *dracontium* theory as untenable, but considers that some of these circles, Stonehenge, for

however, the stones slightly increase in size towards their commencement."

4. "Where there are circles connected with the lines, they are always at the large end."

5. "The circles are composed of stones differing in form from those of the lines. They are thin and wide, and not so tall as the tallest of the lines, averaging about five feet above ground."

6. "The stones of the circles nearly touch each other, whereas those of the lines have spaces of from seven to twenty feet between them."

7. "The average distance between the lines at the west end is thirty feet, at the east end eighteen feet."

8. "In no case is there, strictly speaking, an attachment of the circle to the lines."

Further, it appears probable to Mr. Lukis, "that the number of the lines in each series was determined at first, and the whole number begun at once. The size of the stones indicates this. Again, he presumes, "that they were begun at the west end. Probably in all cases the circles were added last, at least after the wider or west portion of the series had been erected: because at *St. Pierre*, *Quiberon*, the circle is seventy-seven yards on the south side of the lines, at *Menec* the centre of the circle is south of the direction of the central avenue, and at *Kerlescant* it is a large segment, and not a complete circle."

We do not quite follow Mr. Lukis in the last observations; for does not the separation of the circle from the head of the lines at *St. Pierre* rather intimate a certain independence of the two monuments? or again, perhaps, indicate a bifold arrangement, similar somewhat to that previously noticed in this paper as occurring, either accidentally or intentionally, at *Kerlescant*? Supposing that eight additional lines ran easterly from the *St. Pierre* circle, we should have an almost parallel example to those at *Kerlescant* and *Menec*.

The plan of the *Kerlescant* monument is evidently the most complete example remaining to us, exhibiting, besides its remarkable symmetry of design, an intelligible ending or finish, viz. a series of avenues terminating in a circle, close alongside of a smaller but similar series leading up to a sepulchral barrow. Nowhere else do we find complete circles, tumuli, and lines associated together. We meet with lines without circles (see the table, p. cxxv), although traces of circles may yet be discovered in connection with them, but seldom circles without lines. Two instances alone of these latter are given by Mr. Lukis, one on the *Ile aux Moines* and the other on the *Ile El-Lanic*; but as the sea has encroached on the south-east side of this latter island, so as to have washed away a considerable portion of the circle itself, some of the stones composing it being yet visible below low-water mark, so probably there formerly existed avenues leading to it.

Mr. Lukis, after recapitulating the various theories, absurd as well as ingenious, which have been put forth by way of accounting for these monuments, and deprecating the proneness of the native archaeologists to dogmatise upon their intended uses and destination without a sufficient knowledge of their construction, partly agrees with Mr. Stuart,

of Edinburgh, as to circles of stones not being temples, but sepulchral enclosures, but states that as yet there is but insufficient evidence to shew that the terminating circles of *Menec* and *Kerlescant* were used as burial places, although Mr. Lukis himself found in 1869 fragments of coarse clay vessels, flint scrapers and chippings, within the area of the latter circle.

Mr. Lukis comes to the following conclusion :—" *It is possible, therefore, that groups of pillars arranged in lines and in circles, and associated together, may have served a purpose in some way connected with the funeral rites or solemnities that preceded interment.*"

Since the above was written Mr. Lukis has measured the stone circle at Keswick. Within this circle, and touching it, is an internal structure which has every appearance of having served as a sepulchre. It may or may not be contemporary with the circle, but Mr. Lukis' own impression is that it belongs to the original plan, and, if so, tends to confirm Mr. Stuart's view that these circles are sepulchral.

In order more fully to gain any clue which may help the proper interpretation of these mysterious monuments, it is necessary to compare parallel remains of a coeval period, as well as to find, if possible, any similar modern examples in other countries; and first we may take the somewhat analogous example of the Avebury circles, also treated of in Mr. Lukis' paper before mentioned.

Mr. Lukis, having shewn conclusively that the lines of Carnac constitute, not one monument, but three groups, perfectly distinct from one another, proceeds to compare them with Avebury. He remarks that now there is very little clue to its original plan, and that we are compelled to accept the inaccurate drawings of antiquaries of the seventeenth and early part of the eighteenth centuries. Whilst he confesses himself sceptical with regard to the ground plan of Avebury as given by Stukeley, his doubt is strengthened by his intimate acquaintance with the Carnac and other groups of stone lines in Brittany. He prefers the more careful drawing in the plans of Aubrey to the fanciful restoration of Stukeley, and gives as his opinion that the remains at Avebury were originally *three* distinct monuments, viz. one group of concentric circles and short avenue on Overton hill, the second of the larger circles and avenue of Avebury, whilst the third monument of like character, *i. e.*, composed of rows of stones associated with a circle, lay on the Beckhampton side. Mr. Lukis, however, feels that he has very little evidence in support of his views, with which, however, he will find many archæologists ready to agree. Beyond the fact that in both the Avebury and Carnac remains circles are associated with avenues, Mr. Lukis finds the points of resemblance few and faint, and the points of dissimilarity numerous and strong. However, as one point of resemblance, he states that in Brittany the circular inclosure is invariably situated on an elevation, or on the summit of gently rising ground. In Wiltshire one set of concentric circles is on Overton hill, and the great circle of Avebury is also on a gentle elevation. Thus far, although the comparison of Avebury has not done much towards the elucidation of

Carnac, yet the example of Carnac has taught us to look at Avebury in a new light.

Among the points of dissimilarity are the following, viz.—At Carnac there are many—ten, eleven, and even thirteen rows of stones; at Avebury there were never more than two. With the Brittany circles there is no vallum or fosse, nor are there any concentric circles, all of which features appear to be characteristic of the Wiltshire remains.

Sir Gardner Wilkinson describes the stone lines of Dartmoor as leading up to concentric circles with cromlechs or kists, and as therefore being in some way connected with sepulchral and religious rites. Again, Mr. Spence Bate, in his supplementary report on the prehistoric remains of Dartmoor, mentions an extensive avenue in the neighbourhood of Corydon Ball, consisting of seven or eight rows, extending at least a hundred yards, with suggestive traces of what may have formed portions of a circle at the eastern extremity. A huge cairn, with a portion of a kist, are also mentioned near the same locality (see p. cxix). It would be interesting to compare the seven or eight rows of stones at Corydon Ball with those described in this paper as to their parallelism or convergence, etc.

There are systems of avenues of stones with circles in various other parts of the world,—in Lombardy, Africa, India, etc. We may quote the elaborately ornamented megalithic avenues leading to the tombs of the Emperors of China as modern developments of the primæval structures. Thus, we read that the great tomb (the Ling or resting-place of Yung-Lo, of the Ming dynasty,) thirty miles from Pekin, consists of an enormous mound or earth-barrow, covered with trees. Its height is not mentioned, but it is evidently considerable, from the fact that the circular wall which surrounds it is a mile in circumference. In the centre of the mound is a stone chamber containing the sarcophagus in which is the corpse. This chamber or vault is approached by an arched tunnel, the entrance to which is bricked up. This entrance is approached by a paved causeway, passing through numerous arches, gateways, courts, and halls of sacrifice, and through a long *avenue* of colossal marble figures, sixteen pairs of wolves, kelins, horses, camels, elephants, and twelve pairs of warriors, priests, and civil officers. Whether this avenue is orientated or not is not noticed, but an idea of the size of these colossal marble figures may be formed from the following:—"During the building of the late Emperor Heen-fung's tomb, a road one hundred miles long was made from the quarries of Fangshan to the Tung-ling, and a block of marble fifteen feet long, twelve feet high, and twelve feet broad, weighing sixty tons, was seen by several of us then resident in Pekin, being dragged along this road on a strong truck or car drawn by six hundred mules and horses." . . . "This block was to be cut into the figure of an elephant to be placed as one of the guardians of the tomb." (W. Lockhart, Proc. R.G.S. 1866.)

Similarly, near Nankin, there exist avenues of colossal stone figures, attributed to the same Ming dynasty, in connection with the tombs, but what these tombs consist of is not mentioned. More south, in Fokhien, and doubtless throughout southern China, are found the

horse-shoe or omega-shaped tombs which in some cases are associated with analogous approaches. Although not covered by artificial tumuli, the sepulchral chambers are excavated in the side of the natural hills, whilst those belonging to high officials are approached through avenues of stone pillars and carved figures, animal and human, although on a much smaller scale than those of Pekin and Nankin. A sketch of a group of these tombs, said to be those of former governors of Canton, at the foot of the White Cloud mountains, is exhibited.

Now we may venture to assume that all cromlechs, dolmens, kists, and other sepulchral stone chambers of every description, were originally covered with tumuli. Some of the tumuli appear to have had their bases strengthened by revetments or boundary walls of large upright stones. In Great Britain and the Channel Islands we frequently find that the tumuli have disappeared, leaving the structures thoroughly denuded of the smaller stones, earth, or sand which originally covered them, whilst the large blocks forming the revetment remain, and have been generally termed "*peristaliths*." These features certainly are unusual in Brittany, where, however, there are some examples, at Kerlescant, Plouneour, and elsewhere. Now we venture to suggest that the circles of stone in Brittany and elsewhere may be looked upon as the possible remains of colossal "*peristaliths*," the sole indications of gigantic tumuli which may formerly have filled their interior space, and which have now disappeared by atmospherical, aqueous, and human agencies during the lapse of centuries. Nor need we much wonder if no trace of the actual sepulchral chambers within be left, when we consider that the largest tumuli have generally been found to contain the most insignificant kists; besides, it is far from improbable that the builders of the huge mounds, such as those at Mont St. Michel, etc., in the immediate neighbourhood of the lines and circles, constructed their barrows from the material afforded by the débris of the more ancient tumuli within the circles.

Anyhow, whether there were actually tumuli or not within these circular enclosures, the sepulchral theory seems the most fitting conclusion to arrive at; and if this be so, then the avenues may be looked upon as approaches of a ceremonial character connected with funeral rites, not necessarily only those which *preceded* interment, but for *subsequent* visitations, as shewn by the permanent construction of these monuments, which were evidently intended to last through future ages.

As to this day in China the clans and families annually revisit the tombs of their ancestors for the purpose of worship and sacrifice, repairing and cleaning the graves, and placing food for the dead, etc., so through the alignments of Brittany may have passed at stated periods of time to do honour to the resting-place of their forefathers, the descendants of those whose bones rested within the sepulchral circles.

The various theories which have been advanced from time to time as to the destiny of these alignments are so numerous that it would be almost impossible to notice more than a few of them.

Dr. Thurnam has given up the *ophite* or *dracontium* theory as untenable, but considers that some of these circles, Stonehenge, for

instance, may have been covered in with a roof, as the Scandinavian temples are represented as covered and enclosed structures. A similar idea occurred to a gentleman who, on looking at Mr. Lukis' plans of the circles and lines, suggested that the avenues might have been covered in with timber and earth, and formed long chambers for the tribe to live in, the chieftains occupying the western circular chamber.

Mr. Yates has lately written to argue that these lines of stones are mere casual assemblages of stones which have been moved in the course of agricultural operations. It, however, seems strange that any agriculturalists should have taken the trouble of arranging the huge stones in the elaborate designs shewn by the accompanying plans.

Somewhat similar stone enclosures in Denmark have been looked upon as open courts of judicature, cirques, or places of duel, for deciding questions by public combat, or places for the public election of a sovereign or chief, to which latter class Dr. Charleton (*Chorea Gigantum*, 1663,) considered Stonehenge to belong.

§ III. *Alignments of Crozon near Brest.*—The alignments on the promontory of Crozon near Brest are altogether on a smaller scale than those at Carnac, and have accordingly attracted much less attention than the latter gigantic remains; but the whole locality is extremely interesting, and literally teems with menhirs, alignments, etc. De Fréminville mentions them, and gives accurate illustrations of the most important lines at *Landaoudec* and *Toulinguet* in his volume on the Antiquities of Finistère.

We visited the three most extensive of these alignments, viz. *Landaoudec*, *Leuré*, and *Logatjar*.

The most important of these is on the Lande by the mill of *Landaoudec*, about half way between *Lauréac* and *Crozon villages*. The stones are in rather an unintelligible position, and most of them are now prostrate, whilst many of them have evidently been removed into the banks on either side of the road; but still there is the trace of an enclosure associated with orientated lines, which also seem to have converged. Near the eastern extremity of the longest line, which extends some three hundred and fifty yards, are the remains of a kist, and near the mill are some isolated menhirs. The largest stones measure eleven feet three inches by six feet six inches, and nine feet nine inches by four feet six inches. The largest stone standing is six feet nine inches high by five feet six broad. According to De Fréminville there exist some scattered stones to the north of the mill, but we did not examine them.

The lines of *Leuré* are about two miles to the westward of the last-mentioned group, and are not far from the little port of Fret, where the steamer from Brest touches. These lines exhibit the features usually distinctive of the Crozon alignments, viz. lines at right angles to one another. The longest line consists of eleven stones, arranged east and west, and extending over one hundred and seventy yards, and a shorter alignment (thirty-three yards in length) at right angles, composed of four upright and three prostrate blocks. In this last line are the largest stones. The upright ones measure seven feet six inches high by four feet thick, and four feet broad; and six feet high by six feet six inches broad, and five feet six inches thick.

The menhirs of *Gatjar* or *Logatjar* are situated on the down above the village and port of *Camaret*.

They are by far the most conspicuous and clearly defined of all the alignments on the promontory, as they are not overgrown with furze bushes like the two last-mentioned lines. Here, again, we find the characteristic features of two short lines about fifty yards long at right angles to a longer line two hundred and sixty yards long, lying north-east and south-west. The short lines, one of fourteen, the other of twelve stones, are on the north-west side of the longer line. The conspicuous erect stone is eleven feet four inches high; the largest prostrate stone is thirteen feet long by four broad.

Near all these alignments are outlying menhirs, which M. de Fréminville terms "*les menhirs d'avertissement*," which, according to him, announced to the approaching visitor the vicinity of a sacred enclosure.*

An outlying menhir at *Gatjar*, close by some stones which may have formed a dolmen, probably stood at the foot of the tumulus which formerly covered the sepulchral chamber. One suggestion made as to the disposition of these alignments at *Logatjar* is that they commemorate a naval victory, and that the arrangement of the stones indicates the position of the fleets engaged. Admiral Thévenard, true to his profession, is the originator of this idea, in his "*Recueil de Mémoires relatifs à la marine*," and supposes from the position of these lines, erected on a lofty promontory overlooking the sea, that they represent the order of battle of the Armorican fleets.

There are several other assemblages of stones in this neighbourhood. Amongst others, there are some, probably portions of alignments, near the village of *Goulven* in the bay of *Dinan*, and a *Carneillou*, perhaps a circle, with two parallel alignments stretching eastwards from it, near the cliffs overlooking the *anse de la Pallue*, north of the *Vec de la Chèvre*.

Between the *Pte. de St. Hernot* and *Pte. de Morgatte* are also two enclosures, one with an avenue, the other with double lines of stones bearing the local name of "*Maison du Curé*." On the banks of the River *Laber* also, close to the farm *Raguénez*, is an alignment, and there is a *Carneillou* at the Manor of *Trébéron*, some distance inland from the coast. This last is curious, from the fact that the tumulus which appears to be associated with these lines is named *Le Tombeau d'Artus*.† These last we did not examine, and they are therefore merely mentioned as a record of their existence for the benefit of those who may intend to visit these localities.

§ IV. Connection between the Alignments and other Megalithic remains

* *Antiquités de Finistère*, (2^{de} partie, p. 20, et seq.), par M. le Chev. de Fréminville. Brest. 1835.

† *Artus* or *Artur*. "Le roi *Artus* fut enterré dans l'île d'*Aval* ou d'*Avalon*, sur les côtes qui avoisinent *Lannion*, et à peu de distance de son séjour favori, ce château de *Carduel* or *Kerduel*, si célébré par les chroniques de la table ronde, et appartenant aux enfants de M. de la *Fruglaye*. Les Anglais ont voulu, mais à tort, s'approprier ces localités." (De Fréminville.) From this it would appear that the Arthurian legends are as much Armorican as British. Vide "*Traces of Affinity between the Bretons and the Cornish*," *British Quarterly Review*, No. civ, October 1, 1870.

in their neighbourhood.—An important question may now be raised as to whether these lines and circles are in any way associated or not with the numerous menhirs, dolmens, and other allied megalithic structures found not only in their immediate neighbourhood but throughout the province: which question naturally includes the following: Was their erection coeval? Were they built by the same or by a different race of men? We assume for the present that they were both constructed for similar, i.e., sepulchral, purposes.

Now as to their contemporaneity, the Rev. E. L. Barnwell states* that “of all the monuments usually called Celtic, whether of pillar-stones, chambers, circles, avenues, etc., the simple chamber cromlech or dolmen, with or without its covered gallery, is now generally acknowledged to be the earliest.” To us there seems every reason to suppose that the stone avenues belong to a period anterior to that when the menhirs and dolmens were set up, when we compare their shape and position. These assemblages of stones are remarkable for their want of uniformity, absence of elegance, in fact, general shapelessness; some globular, others rhomboidal, etc.—all sorts of irregular, fantastic, rough, and bizarre forms. The hugest appear to have been chosen for their bulk and weight alone, without any consideration of their shape, and but little heed taken as to how or in what position they should stand, as long as they were in their proper alignment. They are erected any side uppermost, as often as not with their heavier portion in the air, being well nigh balanced on their smaller end, so much so as would lead us to suppose sometimes that they were originally thus placed in equilibrium; still, it is more probable that they were left in the readiest position which came to hand. There is no trace of their having been fashioned artificially. At all events, they present a striking contrast to the isolated pillar-like menhirs of smooth elegant exterior, placed generally with an especial view to their stability, and exhibiting a practical knowledge of the position of the centre of gravity on the part of those who erected them. Many of the menhirs present the appearance of having been fashioned artificially; for instance, at Locmariaker, that magnificent specimen “*Le Grand Menhir*,” now lying in four pieces, exhibits the artificial handiwork of man; whilst on the south side of the “*Menhir de la Bourlaie*” (*Moustoir ac*) are two sculptured figures in relief, whilst others exhibit fluting, and other signs of ornamentation belonging to an advanced period of art.

Again, we know that the custom of erecting monoliths has descended down to historic times, and we have the records of the erection of memorial stones, as the *Bauta-stones* and *Minne-stones* of Scandinavia and the *Gullaunes* of Ireland; whereas there are no historical accounts of the circles and avenues of stones being formed.

In like manner the dolmens are still more remarkable for the admirable smoothness, flatness, and clever adaptation of the huge slabs composing them, whilst in many instances they are found elaborately ornamented.

The inclusive term “*Megalithic*” has been generally applied to all

* Barnwell, Rev. E. L., *Archæologia Cambrensis*, 3rd ser., vol. x, p. 57.

As, however, there is some doubt of these marks being coeval with the erection of the monuments on which they are found, and from their extreme simplicity and rudeness, the monuments on which only these have been found are not included in the sculptured division of the tumuli.

Next in order we find irregular lines and network, as at *Kerosille* and *Kercado*; then regular patterns, as pot-hooks, at the *Dol au Marchand*; later, a better development and some idea of elegance in the sculpture of *Pierres Plates* and *Le Rocher*, and the most elaborate style of ornamentation, with representations of celts, and the mysterious holes and handles at Gavr' Inis. The incised trace of feet at *Petit Mont* probably belongs to the same period as the tablet of *Manné-er-H'roëk* mentioned above.

The elaborate ornamentation of the interior of some dolmens, as at *Gavr' Inis*, *Pierres Plates*, etc., would lead us to suppose that these sculptured galleries were entered by visitors subsequent to the interment. It is noteworthy to remark that the majority of these dolmens are so placed that at one period of the year or another the sun on rising would illuminate with its rays the gallery and chamber, reminding us of the chieftain in Madagascar who on his death-bed requested his son to occasionally open the entrance to his stone tomb, and let the sunlight shine in upon his body. It appears from Mr. Lukis' observations that sixty-six per cent. of the dolmens have their entrance between the south-east by east and south points of the compass (magnetic).

The gallery of approach, always narrowed at the entrance, is occasionally found curved, as at *Le Rocher*, near *Auray*, or at a sharp angle to the chamber, as at *Kergonfals*, near *Locminé*.

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It will be noticed that class 9 in the adjoining table includes those barrows which contain two or more dolmens. In some instances, where denuded dolmens are found in groups even of four together, as at *Erdeven*, on an eminence about the centre of the lines, it is difficult to decide whether they were in separate tumuli, which must have touched one another, or have been enveloped in a common mound.

§ VI. *Predominance of Fibrolite Celts in Interior Finds.*—By inspection of the catalogue of *Les objets de l'âge de la pierre polie*, preserved in the archaeological museum at Vannes, it appears that there is a collection of one hundred and ninety-eight stone celts of the neolithic period, besides numerous fragments, etc. The collection of flint knives, scrapers, flakes, arrowheads, and cases of flints is extremely

scanty. Mr. Lukis writes with reference to the flint arrow-points, that "the members of the Polymathique Society of the Morbihan, after fifteen years labours, have succeeded in finding two only, and this circumstance has led them to remark that these objects are very rare in the department; but I entertain a different opinion, and conclude that they have not searched carefully, for in one chambered barrow I have found *nine*, in another *three*, and in a third *one*, and in each case after a previous disturbance of their contents. They are small objects, and easily escape detection, more particularly when explorers neglect to use the sieve. The truth is, explorations of these barrows are generally carried on too rapidly, especially by those whose place of residence is at a distance, as well as by those who employ paid labourers, to whom, therefore, time is of great consequence."—"On a remarkable chambered long Barrow, at Kerlescant, Brittany," by the Rev. W. C. Lukis, p. 6.) It may be added that it was not until the Rev. W. Lukis showed the members of the Society that the soil removed in the course of excavation should be sifted, that they found any of these small flint implements. The number of flint knives now in their collection is under twenty, and a third part of this number was found in the Moustoir tumulus.

The exhibition of pottery is also insignificant, as the ignorant work-people employed (generally soldiers) looked upon the urns and jars when found only as the probable receptacles of treasure, and nearly always destroyed them. This is testified by the innumerable fragments which are scattered about the débris of the tumuli explored under the auspices of the Society.

Of the one hundred and ninety-eight perfect celts in the collection (besides those miscellaneous small and disconnected finds from various and unknown localities) one hundred and seventy-four are the results of three great finds from the interiors of the tumuli *Manné-er-H'roëk* (*Locmariaker*), *Mont St. Michel* (*Carnac*), and *Tumiac* (*Arzon*).

Appended is a table in which these celts are classified, from which appears that, taken collectively, seventy-five per cent. of the celts found in these mounds were composed of the material known as *Fibrolite*.

Fibrolite is a rare substance, and its presence in these sepulchres has given rise to much inquiry as to the source whence it could be obtained in Europe, as the only locality where it occurs native is not nearer than the Carnatic. Recently it is reported to have been discovered in Brittany, but without much foundation.

Of these fibrolite celts nearly seventy per cent. are of the shape conforming generally to type K, and the remainder to type L, adopting the classification of the Polymathique Society (see fig. 5). Both types are of irregular thickness, occasioned by the lamellar structure of the material. These fibrolite celts were exhibited at Paris in 1867, and some casts of them are in the Blackmore Museum, Salisbury.

The Rev. W. Lukis has in his collection one hundred and eighty-four celts from Brittany. Of these only a tithe are fibrolite, viz. eighteen, whilst six are of jade; but this collection is the result of

ns, menhirs, circles and alignments of stones. We may not be in applying the distinctive term "*Amorpholithic*" to lines and es of rough stones, or to any other assemblages of stones of a shapeless character.

From these distinctive features we venture to suppose that there are two classes of megalithic remains, and that the stone alignments and circles are attributable to an age considerably anterior to that of the dolmen builders.

If the isolated menhirs were erected by the same people, or their ancestors, is it likely that they would be placed so as to interfere with the design of the alignments, as at Kermario, where a single menhir rises abruptly amidst the smaller stones of the avenue, of which it is wholly independent, and therefore probably a subsequent erection?

In spite of their propinquity (for we have many instances of menhirs and dolmens on either side of the lines, likened by some French writers to the outposts of the main army, and called by De Fréminville "*les pierres d'avertissement*,") it seems likely that there was no connection between the lines of amorpholiths and the other megalithic structures, or between the races who constructed them. On the other hand, it is not improbable that the most suitable stones of the more ancient lines were often taken to form the neighbouring *cromlechs* and *peulvans*. It must be admitted that there is some slight analogy perceptible between the narrow passage leading to the sepulchral chamber of the dolmen and the narrow avenue which widens as the circle is approached.

Now if the Veneti or their progenitors erected the menhirs and dolmens, it is naturally to be supposed that their descendants, the modern *Morbihanais*, would have handed down by tradition the true sepulchral character of these remains; instead of which we find that the construction of their chambered barrows is universally attributed by their folk-lore to the *Korils* and *Teuz*, the mischievous elves and benevolent fairies; therefore these dolmen mounds would appear to have been constructed by a race who inhabited a large portion of Armorica west of Vannes,* previous to the Veneti; so we must now assign the avenues and circles of amorpholiths to a yet more ancient pre-Celtic race, not aboriginal, but probably intruders from the north and Scandinavia, of whom these long-lasting rough stone masses alone remain as memorials of their existence.

§ V. *Characteristic Features of Tumuli*.—The tumuli of Brittany have been so accurately described by Messrs. Lukis, Barnwell, and others, and their exploration by Messrs. De Cussé, Galles, Closmadeuc, etc., that it would be superfluous to describe in detail the principal types of these structures or their contents. By the accompanying table, however, it will be seen that an attempt has been made to classify them according to their internal structure.

Mr. Lukis† has divided the dolmens into two groups, which he

* The prevalence of these monuments to the west and their comparative rarity towards the east has been before alluded to.

† "On the various forms of monuments, commonly called dolmens, in Brittany, pointing out a progress in their architectural construction, with

terms *vaulted* and *ceiled* sepulchres. The first group contains those monuments which are covered with huge flat slabs more or less massive; and the second those which are roofed with overlapping* slabs of moderate and small dimensions, forming a rude kind of vault of the beehive form.

Mr. Lukis has good reason to suppose that the ceiled structures are chronologically anterior to the vaulted; but as the same tumulus not rarely contains structures of both descriptions, for instance, *Manné-Lud* and *Le Moustoir* tumuli, whilst other structures within the tumuli are composite, part vaulted and part ceiled, as at *Mt. St. Michel* and *Manné-er-H'roëk*, Mr. Lukis' classification has not been followed in the accompanying table.

One characteristic feature which may also help us in determining the relative antiquity, is in the position of the memorial stone, which is often found to accompany the dolmen mound. In some tumuli this is found on the summit, in others at one extremity (often the west), whilst elsewhere we find an inscribed tablet within the tumulus, close to the sepulchral chamber. Thus the unchambered long barrow north of the circle at Kerlescant (and already mentioned as perhaps connected with the alignments) has its menhir at the western extremity; the Moustoir and other tumuli have menhirs, one or more, on their summits, whilst at Manné-er-H'roëk we find an incised tablet, within the *galgal*, close to the entrance of the sepulchral chamber, on which are some hitherto undeciphered figures.

This last inscribed stone has some rude figures, supposed to be hafted celts, enclosed within a species of label or *cartouche*, which reminds us of the cartouch found so often on Egyptian and Phœnician monuments. So also runes are found (though rarely) inscribed within similar labels, attributed by Professor Stephens of Copenhagen to the early part of the iron period in Scandinavia. It is curious also to remark that these *rune-stones* are also found almost always *inside* the cairn or grave-mound near the skeleton. We may therefore suppose that the tumuli containing these sculptured memorial stones inside them are of less antiquity than those whose memorial stone as a menhir stands without.

It will be seen in the table that a distinction has been made between the sculptured and unsculptured monuments. As regards these archaic sculpturings, the most simple and probably oldest are the well-known cup-markings. Where found merely in rows they perhaps served as records of times and seasons, where in groups they may have represented constellations of the stars. On the upper surface of the cap-stone of the dolmen *Runusto*, near Plouharnel, are some of these markings, which can with a slight latitude be found to rudely represent the constellation of Ursa Major.

an attempt to reduce them to Chronological order," by the Rev. W. C. Lukis, M.A., F.S.A. See *Transactions of the International Congress of Pre-historic Archaeology*. Third Session.

* Compare with arches and vaults found in the ruined cities of Yucatan, described by Stephens and Catherwood; also with circular chambers made by logs and overlapping stones in mounds of Ohio; Cyclopean arches at Arpino in Italy, etc.

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The exhibition of pottery is also insignificant, as the ignorant work-people employed (generally soldiers) looked upon the urns and jars when found only as the probable receptacles of treasure, and nearly always destroyed them. This is testified by the innumerable fragments which are scattered about the débris of the tumuli explored under the auspices of the Society.

Of the one hundred and ninety-eight perfect celts in the collection (besides those miscellaneous small and disconnected finds from various and unknown localities) one hundred and seventy-four are the results of three great finds from the interiors of the tumuli *Manné-er-H'roëk* (*Locmariaker*), *Mont St. Michel* (*Carnac*), and *Tumiac* (*Arzon*).

Appended is a table in which these celts are classified, from which appears that, taken collectively, seventy-five per cent. of the celts found in these mounds were composed of the material known as *Fibrolite*.

Fibrolite is a rare substance, and its presence in these sepulchres has given rise to much inquiry as to the source whence it could be obtained in Europe, as the only locality where it occurs native is not nearer than the Carnatic. Recently it is reported to have been discovered in Brittany, but without much foundation.

Of these fibrolite celts nearly seventy per cent. are of the shape conforming generally to type K, and the remainder to type L, adopting the classification of the Polymathique Society (see fig. 5). Both types are of irregular thickness, occasioned by the lamellar structure of the material. These fibrolite celts were exhibited at Paris in 1867, and some casts of them are in the Blackmore Museum, Salisbury.

The Rev. W. Lukis has in his collection one hundred and eighty-four celts from Brittany. Of these only a tithe are fibrolite, viz. eighteen, whilst six are of jade; but this collection is the result of

miscellaneous and surface finds. When we come to examine those he xhumed himself from dolmens, it appears that out of the eight celts obtained by him from interior finds *six* are of fibrolite, one of quartzite, one of diorite, which agrees with the proportion before stated.

So also in Mdme. le Bail's collection, the results of interior finds as well as of surface, a large number of them are fibrolite. In the Christy collection are some fibrolite celts from the Auvergne, but none from Brittany. In the British Museum there is only one celt of quartzite from Brittany.

Besides the predominance of these fibrolite celts there are some other significant facts which, taken in connection with it, may help to throw some light on the subject. All the fibrolite celts are small, and nearly perfect, not showing signs of constant use, but sharp edges.

The diorite and other celts of a larger type found with them show signs of use, and appear to have been purposely broken before being deposited in the grave.

From this it appears that the fibrolite celts may have been votive, this rare material being probably used only in connection with funeral rites and ceremonies.

EXPLANATION OF PLATE IX.

Plans showing the orientation of the following lines of stones and circles in Brittany, viz: Camaret, Leuré, Kerdouadec, Kerzine, Erdeven, St. Barbe, Menec, St. Pierre, El Lanic, Ile aux Moines, Kerlescant, Cojou, and Kervario.

The following list shows the angles of orientation, or bearings, of the principal lines of stones; the variation being taken to be 23 deg. W.

E. of mag. N.		
57 deg.	0 min.	Camaret.
83	45 "	Menec tail.
86	" 30 "	Kervario.
87	" 30 "	Kerdouadec.*
91	" 15 "	Menec head.
93	" 15 "	Kerdouadec.
93	" 30 "	Leuré, W. part.
99	" 0 "	Leuré, E. part.
106	" 0 "	Erdeven head.
113	" 0 "	True east.
117	" 0 "	Kerlescant.
118	" 0 "	Cojou.
122	" 0 "	St. Pierre.
135	" 0 "	Erdeven tail.
136	" 0 "	St. Barbe.
145	" 0 "	Kerzine.

DISCUSSION.

SIR HENRY DRYDEN stated that he had visited these remains in order to assist the Rev. W. Lukis in making plans, etc. of them, and not in order to come to any conclusion of his own on them. He presumed most people would agree that the lines had some connection with the religion of the constructors. The dolmens and lines of the Carnac district had their chief ends to the west, and this in some measure tended to show similarity of origin. Lieut. Oliver's theory that the lines were avenues to tombs could not be disproved, but it

* Kerdouadec is synonymous with Landouadec.

was not supported by the existence of any tomb or trace of one in the required position, nor was there any specially wide avenue near the middle of any group, such as one would imagine would have existed if they had been avenues to tombs.

The following paper was then read :

XIV.—*On a CAIRN near CEFN, ST. ASAPH, NORTH WALES.* By the
REV. D. R. THOMAS, M.A., and T. MCK. HUGHES, Esq.,
M.A., F.G.S., F.S.A.

[*Abstract.*]

The authors described the opening of a second chambered tomb in the cairn at Tyddyn Bleiddyn, near Cefn, St. Asaph. In it they observed the same crowding of human remains into a very small space as had been noticed in the previously-opened tomb in the same cairn.* The bones of fifteen individuals were found in the two chambers of this second tomb. From the manner of occurrence of the skeletons it was evident that the bodies were interred in a sitting posture at different periods. The bones of a small ruminant and also of a small carnivore were found among the human remains, and in much the same condition. There were no traces of metal or of dressed stone.

JANUARY 24TH, 1871.

PROFESSOR T. H. HUXLEY, LL.D., F.R.S., PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The following donations to the Society's Library were announced, and the thanks of the meeting voted to the respective donors :

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- From the AUTHOR—*Swahili Tales, as told by the Natives of Zanzibar, with an English Translation.* By Edward Steere, LL.D.
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- From the ASSOCIATION—*Report and Transactions of the Devonshire Association for the Advancement of Science, Literature, and Art, vol. iv, part 1.*
- From the SOCIETY—*Transactions of the Historic Society of Lancashire and Cheshire, new series, vol. x.*
- From the SOCIETY—*Proceedings of the Royal Geographical Society, vol. xiv, No. v.*
- From the SOCIETY—*Journal of the Royal Asiatic Society of Bengal, part ii, No. iii; and Proceedings, No. ix, 1870.*
- From the ANTHROPOLOGICAL SOCIETY OF LONDON—*The Journal of Anthropology, No. iii.*
- From DR. HARTMANN—*Zeitschrift für Ethnologie. Hefte, i, ii, iii, iv, 1870.*

* Dawkins, *Jour. Ethnol. Soc.*, vol. ii, Jan. 1871, p. 446.

From the EDITOR.—Sulle Terremare Modenesi : pubblicazione fatta a cura del Consiglio provinciale di Modena.

From the EDITOR.—The Phoenix, December, 1870.

From the EDITOR.—The Flying Dragon Reporter, December, 1870.

From the EDITOR.—The Athenæum; to date.

From the EDITOR.—Nature; to date.

From the SOCIETY.—Journal of the Society of Arts; to date.

The following paper was read :

XV.—*ON EAST AFRICAN TRIBES and LANGUAGES.* By the
REV. EDWARD STEERE, LL.D.

My acquaintance with Eastern Africa is only due to my having joined Bishop Tozer when he left England to take the place vacated by the untimely death of Bishop Mackenzie. We went first of all up the river Zambesi, entering by the Kongone, which is its most southerly mouth. We stayed for about nine months on the Morumbala mountain, after which I visited Senna and Kilimane. After a few months of wandering, including a flying visit to Moçambique, we settled in the town of Zanzibar, where I stayed for four years. The share of work which fell to me was chiefly that connected with the languages. I used while at Zanzibar to receive all our native visitors, and was busily engaged in mastering, first the language of the place, that is, the Swahili, and then in making translations into it, and in gathering by its aid some notion of the languages of the interior. I printed in Zanzibar a vocabulary and sketch-grammar of the Shambala language, and I have brought home similar collections in the Nyamwezi, and a rather fuller work on the Yao language. Of course I do not pretend to have thoroughly mastered any but the Swahili.

While on the Morumbala we were among a tribe which called themselves *Aroro*. Their country is commonly marked in the maps with the name *Bororo*, but of their language or habits I had no time to learn anything material. Their language was said to be very similar to that of the Nyassa or Mang'anja tribe, but their women did not wear the strange ring in the upper lip which is characteristic of the Nyassa, though they generally pierce a small hole in that lip, through which the girls wear a little ring of beads, and women in full dress a long pin with an ornamented head, the point of the pin reaching to below the chin. The people near the Morumbala were, when we saw them, in various stages of starvation, owing to droughts, and to the ravages of the Portuguese outlaw Mariano, or, as the natives called him, Matikenya.

Let me say here, once for all, that in writing all the languages I have met with, I have used the consonants with the force they have in English, and the vowels with the sound they have in Italian. In mentioning the tribes and their countries I use the unvarying part of the word only, as is now commonly done in speaking of the Zulus. As a rule the people of any tribe are denoted by prefixing *wa-*; a single person by prefixing *mu-* or *'m-*; the country by prefixing *u-*, and the language by prefixing *ki-*. Thus, *'Myao* is a Yao man; *Wayao*, the Yao people; *Uyao*, the Yao country; and *Kiyao*, or

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The following paper was then read :

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* Dawkins, *Jour. Ethnol. Soc.*, vol. ii, Jan. 1871, p. 446.

Mombas (called by the natives *Mvita*) is that which is now affected by everyone who pretends to speak elegantly; but the rising dialect, is plainly that of Zanzibar (always called in Swahili *Unguja*). All the other towns are now decaying, as the trade of the whole coast, which one may roughly describe as stretching from Lamoo on the north to Kilwa on the south, is centred in the town of Zanzibar alone. That town was computed some years ago to have a permanent population of one hundred thousand, and it is beyond all doubt rapidly increasing. The late Sultan Seyed Majid built a new town on the coast about forty miles south of Zanzibar, which he designed to be the gathering point of all the trade of the continent, and perhaps a rival to his old capital. I believe that its chief recommendation was that, the harbour being entirely landlocked, the town would not be quite so much at the mercy of an enemy coming from the sea, as his brother, the Sultan of Muscat, had more than once threatened that he would, to exact payment of what he claimed as his dues, if not to oust his brother Majid altogether.

The name *Zanzibar* is more properly *Zenjibar*, from *Zenj*, a "negro," and *bar*, a "coast," like our English "negro coast." It is used only by Arabs and other foreigners for the town and island, and is no doubt the same as the Zanguebar of our maps,—a country which exists, so far as I know, in our maps only. According to the traditional history of the island, the Portuguese found Zanzibar a place of small importance, and held it for only a short time. Their presence, however, scared away the original inhabitants of the town, most of whom fled towards the south of the island, and there founded a town called now *Unguja kukuu* (Old Zanzibar). The descendants of the old inhabitants live in villages by themselves, and are called *Wahadimu*. The descendant of their Sultan is still recognised as their head by many of the people of the coast, as well as in the island, and is commonly known as the *Munyi Mkuu*, or Great Chief. The present *Munyi Mkuu* is a very young man, and is known as Sultan Ahmed. The *Wahadimu* are very shy and distrustful of strangers. They come sometimes into the town with firewood or vegetables, but I could never get into conversation with any of them. Their language is different from that of the townspeople, and there are said to be two distinct dialects spoken among them. They pay two dollars every year for each household, of which the *Munyi Mkuu* has one and the Arab Sultan the other. They also help their two masters at the time of the clove harvest. It is said that their numbers are diminishing. When they bring firewood they come in their own boats, which are the only vessels called in Swahili *dhows*. These *dhows* are small open boats, pointed at both ends, and propelled by a square mat sail. When there is no wind they generally keep in the shallows, and push the boat on by means of long thin poles.

The peculiar vessel of the Swahili north of Zanzibar is called an *Mtepe*. It is an extremely large open boat, with a sharp stem and rather high rudderhead, and a peculiar prow, long and projecting, shaped roughly like a camel's head, with an eye rudely painted, and tassels hanging from what represents the neck. There are very often

Chiyao, the Yao language. The prefix *ki* does not, however, mean the language only, but anything of the sort belonging to those people. It answers very nearly to our suffix *-ish* in such words as Swedish and Spanish. And again, the prefix *u-* denotes not only the country but also the being a member of such a tribe. It seems to me a matter of some importance to get rid of all these prefixes, and not to say that the Wanyamwezi speak Kinyamwezi, or the Betchuana speak Setchuana, but to say simply that the Nyamwezi people speak the Nyamwezi language, and the Chuana people talk Chuana.

The Swahilis are remarkable as being a mixed race, half negro and half Arab. Their language and their features exhibit the same mixture. The history of their coast is merely that of a series of Arab conquests, and they are constantly being recruited by Arab settlers on the one hand and by slaves from the interior on the other. They are at least a more permanent race than any that has been formed by the Portuguese settlers, for on the Zambesi there is scarcely a single instance of a family continuing for more than three generations in a direct line, though there are the same extremes of dissipation and disease among both the Arabs and the Portuguese. Certainly it would be a miracle if a healthy or enduring progeny could spring from the Portuguese settlers in Eastern Africa, and it would be very remarkable if it arose from among the Arabs in Zanzibar. As a matter of fact, large families are extremely rare. A neighbour of ours had twelve children, no two, I believe, by the same mother, and he was looked upon as one of the most fortunate of men. Instances do occur like that of the former Sultan Seyed Sa'eed, who is said to have had forty children; but then of four of his sons who were or might have been his successors, one is dead, leaving no children, two are dead, leaving only one daughter each, and the fourth, who is, I suppose, now Sultan, has no issue. It is only among the Khojas and Bohras who come from India to settle in Zanzibar that every family seems to be increasing, and they marry only one wife, and do not seclude their women. There are abundant instances of long pedigrees among the mixed Swahili race. A number of families trace themselves back to a Persian origin, and claim to have arisen before the time of Mohammed. The coast is traditionally said to have been used as a kind of Siberia by the old Persian kings, and there are remains of buildings very superior to any now erected which are said to have been Persian. I do not know of any remains which carry distinct evidence of their age older than some gold coins of the Kalif Haroun-er-Rashid, which have been dug up in the island of Zanzibar. When the Portuguese first visited the coast, Melinda (or rather Malindi) seems to have been the chief place; after that, Lamoo, or some of the towns near it; then Mombas, and now Zanzibar. There is a sort of evidence of this change in the language. That dialect in which the oldest poetry is written, and which is still the only correct one to write verse in, is called *king'ozu*, and is said to have been spoken at Malindi. The dialect of Lamoo, which is always called by the natives *Amu* (the *L*-being apparently the Arabic article) is still looked upon as the best, though somewhat too antiquated for ordinary use. The dialect of

of the house over his dwelling-place, and that that was the true reason why the man who built it died very soon after its completion, and the next owner also died and the whole family came to ruin. The belief was so strong that the house was practically abandoned, and even workmen hardly dare work in it. I have asked people who wanted to come there to pray and make offerings how they reconciled it with their Mohammedanism, but they merely shrugged their shoulders and said that it was the custom of the country. *Mzimu* are very commonly connected with a baobab, or calabash tree, and many of the natives would think it very unlucky if they passed one without making at least some gesture of respect. Vows are very commonly made at an *Mzimu*. I heard of one which was performed by walking on the knees from the town to an *Mzimu* nearly a mile off. The name itself seems to be connected with an African word (*zimu*) denoting the spirits of the deceased. I believe the word itself occurs in that sense in other languages, and in Swahili *kuzimu* means "among the dead." It may possibly be connected with *wazimu*, or *wazimo*, a word used in the phrase *ana wazimo*, "he is mad." From its form, *wazimu* should signify people or spirits, and in the country parts of the island people say instead of it *ana mahoka*, which is distinctly "he has devils." There may be also a connection between *zimu* and *zimwi*, a kind of ogre, which people say they do not now believe in.

The common name for an evil spirit is *pepo*, evidently the same as *pepo*, "wind." It is used sometimes in a good sense, *peponi*, i.e. "among the pepo" is the regular word for Paradise; *maji ya pepo* means "good and sweet water;" and one of the most learned men of Zanzibar translated the word "blessed," as it occurs at the beginning of the Psalms, by *pepo*. But its common use is for the spirits which continually infest every place, and inflict all kinds of ill upon men and women and their possessions. There is a vast body of learning in regard to these spirits, how to employ and how to expel them, which belongs to the *wachawi*, the wizards and practitioners of black magic, and to the *waganga*, the doctors or practitioners of white magic.

The late M. H. Jablonski, who was for many years acting French consul at Zanzibar, and who knew far more than any other European of the customs and ideas of the lower class of the people, told me many things about these spirits. They are said to be divided into families of various degrees of dignity, and the ceremonies used in expelling them vary according to the family of the spirit to be expelled. Some of the forms and words used were, so far as he could discover, unintelligible even to the *waganga* themselves. Most of them included some kind of sacrifice, and if one of a family which had hitherto been satisfied with, say, a fowl were inadvertently propitiated with a goat, none of the rest of the family would after that take less. There are local spirits, as, for instance, in the island of Monfia, the *Mwana maua* "matron of flowers" (?) who is said to appear as a beautiful white woman, with an ugly dwarfish black husband. There are also purely malicious spirits, as one that is secured by herbs gathered and placed in a mysterious way, and, when secured, requires every day a victim into whom it enters, and, causing a dry burning pain, soon destroys

three or four minute little pointed flags stuck as it were in the top of the head. The vessel itself is very broad and shallow, and has a thatched roof over the centre portion. The planks are sewn together, and no iron is used in the construction. The mast is very tall, and bears an enormous square matting sail: above the mast is fixed a long staff with a small white streamer. There are two kinds of canoes used in Zanzibar, both hollowed out from the trunks of trees. The smaller have outriggers to prevent overturning; the larger not. The canoes at Moçambique are made of bark, very light, and rather broad; while those on the Zambesi are made by hollowing out the trunks of a tree having a dark-coloured close-grained wood. Some of these last are very large, and will carry as much as ten tons of goods. The larger have rudders, and are called *coxes* (kosh): the smaller, steered with a paddle, are called *almandias*. Even in this Portuguese district the names of the boatmen are Arabic: the steersman is the *muwalimu*, and the man at the bow the *kadamu*. There is perhaps a trace of Swahili in the name of Kileman. *Kilimani* is the Swahili for "on the hill," and is in the usual form of names of places.

The extreme mixture of races on the Swahili coast prevents the exclusive prevalence of any one distinct type of form and feature. The better class of Swahili—those who can trace their descent farthest back—have more of the Arab in their appearance than of the negro. Indeed, upon occasion, they aver that they are Arabs, and that their language is only a dialect of Arabic: but then the Comoro people say the same, and they have not only negroish features, but the rank negro smell in great intensity. The purest Swahili are rather small and well-shaped, with clear dark-brown complexions and a small beard. One sees now and then a very peculiar colour, as though the face had been blackened with ink and then washed. There is a curious difference between the Swahili and the unmixed Arabs,—the Arab prefers to sit on the floor, the Swahili prefers to sit on a chair. They say that they derived this custom from the Portuguese; and in their poetry "a European chair" is often mentioned among the articles of luxury.

In religion the Swahili are Mahommedans of the Shafi school; but the Sultan and his immediate followers are of an heterodox sect, which prevails in Oman, called the *Ibathi*. The differences which come into most prominence in Zanzibar are that the *Ibathi* have no minarets to their mosques, forbid singing at funerals, regard smoking as a great sin, forbid the marriage of an adulterer with the divorced adulteress, deny that the faithful in Paradise see God, and deny that there have been any true Caliphs except Abubekr, Omar, and Othman during half his reign. On all these points the Shafi hold opposite opinions. But all alike have taken up a mass of superstitions more or less purely African.

The most noticeable is one in relation to places called *Mzimu*, which are supposed to be haunted by powerful spirits. There was one under the corner of the house we lived in in Zanzibar. The workpeople engaged about our house used often to burn some incense in a little pot to propitiate the spirit, for it was universally believed that the spirit had been disturbed and offended by the erection of that corner

Nyikas lie the Masai, who are the dread of all the other tribes; neither in language nor in features do the Masai belong to the South African negro race. The Shambala occupy a mountainous tract, which reaches to within one or two days' journey to the sea, and lies nearly opposite the island of Pemba. They are a very secluded race, though in times past they have been very powerful. Of late years there have been a series of disputes about succession, which have much divided them. There are among them a number of people of another and handsomer, but less warlike, race, who are said to have come long ago from the north. The Shambala have always been governed by a king, possessed of the most absolute power. Their kings have generally borne the names of Kimweri or Semboja. They keep cattle, and are occasionally, in spite of their mountains and their firearms, harried by the Masai, who fight only with a spear and a shield. Among the Shambala it is forbidden to plant new kinds of fruit trees, or to grow any new kind of corn. The staple food of the country is the fruit of the banana. Through the Shambala country lies the usual route from Zanzibar to the snowy mountain Kilimandjaro. The summit of Kilimandjaro itself is said to be sometimes visible from Kokotoni, at the northern end of the island of Zanzibar.

South of the Shambala mountains live the Zegulas, a very warlike tribe. There was an insurrection years ago in the island of Zanzibar of the Zegula slaves, and it could only be put down by help from Arabia. They are said to be peculiarly barbarous in their customs. Nearly opposite Zanzibar itself lie the *Zaramo*, through whose country passes the great road to the Nyamwezi and to Ujiji, on the Tanganyika Lake. Nearly opposite the island of Monfia begin the Gindos, who stretch on behind Kilwa towards the Makua. Behind the Gindos, between them and the Lake Nyassa, lie the Yaos; their country has lately suffered most severely from the Maviti, who are, I suppose, the same as Livingstone's Mazitu. Only one Yao chief is reported to have been able to hold his own against them. For the time being the road from Kilwa to the lake is closed.

By far the greater part of the slaves brought to Zanzibar, until very lately, belonged to the Yao tribe, or to the Gindos, or to the Nyassas on the other side of the lake. The tribal mark of the Gindos is a row of spots or short perpendicular lines across the forehead. The Nyassa mark is a sort of union jack, generally made on the breast. The Yao mark is two short parallel lines. Two pairs are generally made between the eye and ear; but I have seen men almost entirely covered by marks like our sign of equality. The prevailing colour of all these tribes is a dark chocolate, and the men are generally rather small and slim, and often exceedingly well made. They are entirely without the long heel of the west coast negroes, and have very little indeed of the negro smell.

The only other tribe which I know anything of is the *Nyamwezi*. The Nyamwezi are well known in Zanzibar by their long hair and peculiar features, their dress of skins instead of calico, the white ornament hung round their necks, and their habit of eating animals which die of themselves. It is chiefly, I think, from this last custom

him. If no victim is pointed out to it, it enters into its master, and destroys him. I was asked more than once what ceremonies ought to be used to expel European demons, which are supposed to have made their appearance on the coast within the last few years. There is a special kind of sacrifices in use, called *kafara*. They are never eaten, but sometimes are put down in the path, when whoever or whatever takes them carries off the disease or ill on account of which they are offered; or on more solemn occasions the victim is buried. There is occasionally a mysterious secret sacrifice of this sort, when a black and a red ox are offered, and it is whispered that this is only a euphemism for a black and a red, or white, person. There is a peculiar light liver colour occasionally occurring among some of the tribes, which is called red.

There is something of a religious character about the traditional observances connected with the *siku a mwaka*, i.e. the day of the year, which answers to the Persian *nairuz*, and occurs now at the end of August. The old Swahili year of 365 days begins with it, and is calculated in decades. On the night before it every one bathes in the sea, and many deck themselves with green branches. In the morning a large mess of rice or grain is cooked and eaten as a public feast. About noon all the fires are carefully and completely extinguished, and lighted again in the evening by rubbing sticks. Formerly no account was taken of any violence done on this day, and even now everyone goes armed and is very careful to avoid his enemies. I suppose these customs must have come down from the times before Mohammed.

Omens are very carefully observed, and every one has strings of instances to show that they come true. A lucky day must be chosen for every new undertaking. It is unlucky to meet first an odd number of person walking together; an even number is lucky. It is unlucky to see crows on the lefthand side of the path. If you stumble in going out you must go back again. No one will take from your hand a knife or a pair of scissors if it can be avoided. You should always enter a house with the left foot forward. A child that cuts its upper teeth first is sure to be unlucky. If you are asked the news, you must say *good*, whether it is so or no. If you are asked how you are, you must say *well*, for the sake of the omen, even when you are dying.

Part of a house we were building fell down, and we were told of many signs that had foreboded it—a goat had been heard to bleat on the roof when no goat was there; a man had been seen to enter the house and no trace of him could be found afterwards; a hand had been seen to issue from our well with light coming from the tip of each finger, and after the fall a small snake was found coiled up in a hollow among the stones, which was taken as in itself abundantly sufficient to account for the accident.

I can offer but very few particulars about the inland tribes. Behind Lamoo and Melinda lie the Gallas and the Pokomos, who are true negroes, but serfs to the Gallas. Behind Mombas lie the Nyikas, who reach to the foot of the Shambala mountains. Behind the

Nyikas lie the Masai, who are the dread of all the other tribes; neither in language nor in features do the Masai belong to the South African negro race. The Shambala occupy a mountainous tract, which reaches to within one or two days' journey to the sea, and lies nearly opposite the island of Pemba. They are a very secluded race, though in times past they have been very powerful. Of late years there have been a series of disputes about succession, which have much divided them. There are among them a number of people of another and handsomer, but less warlike, race, who are said to have come long ago from the north. The Shambala have always been governed by a king, possessed of the most absolute power. Their kings have generally borne the names of Kimweri or Semoja. They keep cattle, and are occasionally, in spite of their mountains and their firearms, harried by the Masai, who fight only with a spear and a shield. Among the Shambala it is forbidden to plant new kinds of fruit trees, or to grow any new kind of corn. The staple food of the country is the fruit of the banana. Through the Shambala country lies the usual route from Zanzibar to the snowy mountain Kilimandjaro. The summit of Kilimandjaro itself is said to be sometimes visible from Kokotoni, at the northern end of the island of Zanzibar.

South of the Shambala mountains live the Zegulas, a very warlike tribe. There was an insurrection years ago in the island of Zanzibar of the Zegula slaves, and it could only be put down by help from Arabia. They are said to be peculiarly barbarous in their customs. Nearly opposite Zanzibar itself lie the *Zaramo*, through whose country passes the great road to the Nyamwezi and to Ujiji, on the Tanganyika Lake. Nearly opposite the island of Monfia begin the Gindos, who stretch on behind Kilwa towards the Makua. Behind the Gindos, between them and the Lake Nyassa, lie the Yaos; their country has lately suffered most severely from the Maviti, who are, I suppose, the same as Livingstone's Mazitu. Only one Yao chief is reported to have been able to hold his own against them. For the time being the road from Kilwa to the lake is closed.

By far the greater part of the slaves brought to Zanzibar, until very lately, belonged to the Yao tribe, or to the Gindos, or to the Nyassas on the other side of the lake. The tribal mark of the Gindos is a row of spots or short perpendicular lines across the forehead. The Nyassa mark is a sort of union jack, generally made on the breast. The Yao mark is two short parallel lines. Two pairs are generally made between the eye and ear; but I have seen men almost entirely covered by marks like our sign of equality. The prevailing colour of all these tribes is a dark chocolate, and the men are generally rather small and slim, and often exceedingly well made. They are entirely without the long heel of the west coast negroes, and have very little indeed of the negro smell.

The only other tribe which I know anything of is the *Nyamwezi*. The Nyamwezi are well known in Zanzibar by their long hair and peculiar features, their dress of skins instead of calico, the white ornament hung round their necks, and their habit of eating animals which die of themselves. It is chiefly, I think, from this last custom

that the name Nyamwezi is looked upon as a reproach. They have the strong negro smell very noticeably. They are, however, in many ways superior to the neighbouring tribes. They send caravans of their own on trading journeys to Zanzibar. The Bisa, who used to come to Kilwa, were the only other interior tribe that ventured down.

I heard amongst the Nyamwezi, and amongst them alone, of athletic sports, such as leaping and running; the boys amuse themselves with swings and walking on stilts. A young man is looked upon as a milksop until he has made at least one journey down to the coast, and their caravans take three months to do it in. When they return home they often take a new name, calling themselves after the Sultan, or some of the great Zanzibar men whose names they have heard in their travels. Their colour is blacker than that of most of the coast tribes, but their features are a shade more European. The nose is not so flat, nor the lips so thick, and there is a peculiar roundness and fulness about the form of face. They always wear their hair long, generally hanging in tight ringlets. When very long it is gathered up on the crown of the head, and a string tied round it, leaving the ends to fall around the head. They wear universally a small triangular piece of ivory, or white shell, suspended round the neck by a plaited black cord, so as to hang just between the collar bones. Many have a great ivory bracelet, which looks like a ball pierced to receive the arm. Their usual dress consists of a large piece of a sort of leather passed round the body under one arm, and open down the other side, except just where it is fastened upon the shoulder, and again about the waist. In their own country bark cloth is frequently made and used.

There is said to have been once a great empire of Unyamwezi, but the nation is now divided into a number of scarcely connected tribes. As their country furnishes a convenient centre for the lake district, it has of late years been several times visited. When Burton and Speke made their first journey the civil war was going on, which has ended for the time in the appointment of a Governor by the Sultan of Zanzibar. There are in the country a great many Arab and Swahili settlers, but I gathered that the natives would be gladly quit of them if they could. I should think that witchcraft held a larger place in the thoughts of the Nyamwezi than perhaps in those of any other people. Part of the road to Ujiji passes over a quaking bog, and I was told by a Nyamwezi that the country thereabouts was so full of wizards, that no one dare step the least out of the way lest he should sink and be smothered *through their enchantments*.

In the Nyamwezi tales the elephant takes the place of the lion as the king of beasts, and, as in all the African tribes I met with, the part of the fox is played by the *sungura* (rabbit or hare). I was told by a Nyamwezi a little tale, which has, I find, a counterpart among the Natal Zulus. It was this,—the rabbit had long been deeply in debt to the elephant and kept out of his way. At last it happened that the elephant came upon him just before he could slip into his hole in a precipitous hill side, and demanded payment. I was just going into the hole there to get it, said the rabbit, but I am afraid of

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In Swahili and Shambala nouns which denote living things may have their adjectives and pronouns in the form in which they would agree with the word *mtu*, "man," whatever the form of the substantive itself might be ; this does not seem to be the case in Yao or Nyamwezi.

In the verbs which always regularly end in *-a*, all four languages agree in having special forms to give a causative, a reciprocal, a neuter, or *quasi* passive, and, what I call, an applied form, that is, a meaning which must be expressed in English by the use of a preposition, as in "to look for," "to call to," "put into," "take away from." The African languages are all poor in prepositions, and express them in such cases as these by changing the final *-a* of the verb into *-ila* or *-ela*. Into *-ila* if the preceding vowel is *a*, *i*, or *u*,—into *-ela* if the vowel of the preceding syllable is *e* or *o*. A neuter or *quasi* passive sense is given in all four by the termination *-ka*, and a reciprocal meaning by the termination *-ana*. A causative meaning is given in Swahili and Shambala by the terminations *-sha* or *-za*, in Yao by the termination *-sya*, and in Nyamwezi by a *y* inserted before the final *-a*. In Shambala and Yao the causative has also an intensive meaning.

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There are a certain small number of common words which occur in slightly varied forms in all four, and indeed in almost all other African languages, such as *mtu*, a "man," *nyumba*, a "house," and *moto*, "fire ;" but the vocabularies are for the most part very distinct, and the general sound of the languages very different.

In them all the letter *n* is used as a prefix, and produces great changes in the consonants to which it is prefixed. Thus :—

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robbed him of everything, and at last persuaded him to swallow a white stone, which killed him.

The Yaos have a proverb by which they justify their own cowardice,

He who goes in fear goes to laughing.
He who goes boldly goes to weeping.

The Yaos say that they have in their country a kind of monkey as large as a big boy, which will live with people, and help them in every way. It will even take care of a baby, and carry it about safely, even when it is climbing about among the trees; but that if anybody calls it *nyani*, i.e. "ape," it immediately drops whatever it has in its hands, and disappears into the woods for ever.

The Yaos have the same kind of enigma which is common among the Africans, and which seems to an European so pointless and unsatisfactory. The following are some of the more striking specimens:—

I killed my game, and there was no flesh to be seen?—*Answer.* A tortoise.

I went to my friend, and he cooked for me game that had not been gutted?—*A.* White ants in their flying stage, which are fried whole.

Let us eat what our grandfather carries?—*A.* Flour, or white hair, from their similarity.

My master's trap falls quickly?—*A.* Eyelids.

I went to my friend's, and he saluted me before I got there?—

A. A dog; because he barks as soon as he hears anyone coming.

The next is one that occurs in many languages.

I built me a great house, it had no door?—*A.* An egg.

In Swahili I have published a collection of tales with a few proverbs and enigmas. They are necessarily modified somewhat by the Arabic element which exists in both language and people.

It remains for me to say something about the languages of the East Coast. Of these I learnt something of four,—the Swahili, the Shambala, the Yao, and the Nyamwezi.

They are all members of what is called the Bantu family, which prevails throughout South Africa. The substantives are in them all distinguished by their prefixes. There are six classes common to them all. They are in the singular and plural.

SWAHILI.	SHAMBALA.	YAO.	NYAMWEZI.
1. Mtu Watu.	Munt Want.	Mundu Wandu.	Munhu Wanhu.
2. Mti Miti.	Muti Miti.	Mtela Mitela.	Mti Miti.
3. Nyumba.	Nyumba.	Nyumba.	Numba.
4. Kitu Vitu.	Kintu Vintu.	Chitu Itu.	Kinhu Finhu.
5. Jicho Macho.	Zisho Mesho.	Liso Meso.	Liso Miso.
6. Uayo Nyayo.	Luayo Nyayo.	Lusajo Sajo.	Lupambala Mhambala.

All except Swahili make diminutives by the use of the prefix *ka-*, for which, in the plural, Yao and Nyamwezi use *tu-*. Nyamwezi stands alone in making a class by the prefix *wu-* (Kafir *bu-*), as in *Wuganga*, "medicine;" plur. *Mavuganga*, "medicines."

Swahili and Shambala express locality by suffixes; *-ni* in Swahili, and *-i* in Shambala,—In the house is *Nyumbani* or *Nyumbai*.

Yao and Nyamwezi express locality by three prefixes,—*mu-* (within); *ha-* (by or near); *ku-* (to, or at distant places).

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in Swahili ; *n* disappears before *u* in Yao, but remains in the others ; *n* before *w* become *mb* in all four languages.

These euphonic changes, which are most frequent in Yao, are at first extremely perplexing.

As to accent and pronunciation it may be said that the Swahili is smoothly uttered, with a decided accent on the penultimate. The Shambala has the accent also on the penultimate, but has a guttural unfinished utterance. The Yao is uttered very smoothly and quickly, with no decided accent. The Nyamwezi is uttered in a drawling nasal way, with a slight raising of the voice on the final syllable. Thus to say in each language that one cannot speak it, is as follows :—

I cannot speak	Swahili,	<i>Siwezi kusema Kiwahili.</i>
" "	"	Shambala, <i>Shidaha kulonga Kishambala.</i>
" "	"	Yao, <i>Ngapakombola kuwelecheta Chiyao.</i>
" "	"	Nyamwezi, <i>Kuyombela Kinamwesi ng'o.</i>

The following paper was read :

XVI.—*On the WEAPONS and IMPLEMENTS used by the KAFFIR TRIBES and BUSHMEN of SOUTH AFRICA.* By CARL LUDOLF GRIESBACH, Esq.

(Abstract.)

THE various tribes inhabiting East Africa use weapons and tools made of iron, which they manufacture themselves, showing sometimes considerable skill in smelting and working the metal. Amongst the Kaffir tribes native smiths are numerous, but their knowledge of metallurgic art is very primitive. Two round boulders of greenstone serve for an anvil, on which the red hot iron is beaten with a rude hammer, whilst another Kaffir mends the charcoal fire, which is always made in a small hole in the ground. Two goat skins are carefully sewn up and meet in a hollowed-out bullock-horn, one end of which is turned towards the fire. By alternately pressing the one goat-skin down and pulling the other up, air is forced amongst the coals, and sufficient heat is thus developed for the work. Such primitive workshops are to be found throughout Kaffirland, Natal, and the Zulu country ; and also at the Zambezi, where the Kaffirs, though for three centuries in contact with the Portuguese, have never adopted the European method of working metals.

All the assegais of the Kaffirs and the arrowheads of the tribes of the north are made by native smiths, and most of them by smelting the iron direct from the ore. The natives, also, understand wire-making ; for this purpose they use small plates of iron into which they bore holes. Some of the northern tribes, the Amaswazi and Amandebeli, know how to mix metals so as to produce a kind of bronze or brass. In certain parts they are also acquainted with tin.

The Bushmen still use weapons of sharpened bone, and but rarely employ arrow-heads of iron ; these they never manufacture themselves but obtain from neighbouring tribes. At the sea-coast of Natal, and at the delta of the Zambesi, stone arrow-heads have been found, probably relics of a former race. A singularly-shaped tool is employed by the Bushmen, consisting of a rounded stone perforated for the

with figures of the patterns with which the women tattoo themselves on the brow, temples, cheeks, chins, and forearms, and is tolerably complete. "Some of the men are in the habit of filing their front teeth, but more frequently they are stained with *surmak*, the oxide of antimony, which fills up the interstices between the teeth, and gives the teeth themselves a black stain; others stain their teeth blood-red," which is effected by a tedious process that must be a tax upon the would-be fashionables. In the shorter account of the inhabitants of the Burgoor Hills it is said: "Some of them have fine Caucasian features, small well-formed heads, bright eyes, with an intelligent expression, and are of a light copper colour; whilst others are just the contrary, with large heads, flat features, and dark skinned, so much so that it arrests the attention at once on seeing a couple of these people together." Both the Mulliallies and these inhabitants of the Burgoor Hills are Hindoos and also Lingayets.—J. B. DAVIS.

THE NOVARA EXPEDITION.—The next publication of the Austrian Circumnavigatory Voyage will be another *Anthropological Part*, and will be devoted to *Craniology*. It is in the hands of Professor Seligmann, and will be accompanied by eight or ten plates. It is expected to appear in the course of this year. Among the other misfortunes to science, fairly attributable to what may be called from its chief originator and cultivator, the Napoleonic war spirit, we must lament the non-publication of the volume of portraits of Aborigines collected during this expedition. They would have been of the utmost interest and value in promoting the study of anthropology. The waste experienced in Austrian finances will not now allow its issue.—J. B. DAVIS.

DR. C. SWAVING'S COLLECTION OF SKULLS.—It is believed that Dr. Swaving has relinquished his honourable appointment in Netherlands India, and is now on his voyage back to his native land. He will bring home a considerable collection of skulls from the Malay Archipelago, which will be conjoined to that which he deposited in the great Anatomical Museum of the University of Leyden on his departure for the east. It is much to be desired that on his return his health may be such as to allow him to continue his researches among these craniological treasures.—J. B. DAVIS.

A NOTE ON THE NUMERALS FOR 3, 7, AND OTHERS.—The numerals for 3 and 7 in the languages of Europe, Asia, and Africa, emanating from High Asia, are obtained from roots signifying Middle, Heart, Navel, Half. The numerals 1, 3, 5 and 10 are related; also 9, 4, 6, 8. The primary enumeration was in fours, with scores of 16 (afterwards 20) and 64 (afterwards 80 and 100). The change to decimal numeration took place while there was still one class of language in High Asia, but most likely later than the migrations of the Koriaks, Kamschatkans, Esquimaux. The words were originally finger names in pairs, and most likely male and female. On the introduction of a hand of five, the new numeral on each hand had to be named, and the names were consequently displaced; the new name was applied to

ANTHROPOLOGICAL NOTES

ANOMALOUS TRANSVERSE SUTURE IN HUMAN MALAR BONES.—This suture, which, where it is present, produces an *os zygomaticum accessorium*, has been hitherto regarded as almost exclusively occurring in extra-European races. Von Soemmerring observed it in a Negro skull; another Negro skull in the collection of Van der Hoeven presented it; and Barkow describes two or three cases in Negro skulls. Other examples are in a skull of unknown origin in Sandifort's collection, and in that of a woman, considered to be Chinese, in Vrolik's collection. It has been often seen in the skulls of Dayaks from Borneo, as in one in the Museum at Wurtzburg; in two others described in the "Thesaurus Craniorum," pp. 293 and 297. Swaving describes and figures the cranium of a Buginese, which presents it on both sides. The singularity was that it had not been noticed in European crania. At length, Professor A. Garbiglietti met with it in the skull of an ancient Etruscan found at Veii; still it had not been described in any modern European skull. Recently, however, Professor Delorenzi has observed it in a body in the Anatomical Amphitheatre at Turin. (*Caso di rara anomalia dell' Osso Molare*. Giornale della R. Accad. di Medicina di Torino, 10 Feb., 1871). And, still more recently, Dr. Giustiniano Nicolucci has met with another Italian instance of this anomaly in a skull just added to his collection from Arpino. The irregularity exists on the left side only, and closely resembles the instance figured by Professor Delorenzi. (*Sopra un nuovo caso di rara anomalia dell' Osso Molare umano*. Giornale della R. Accad. di Medicina di Torino, 31 March, 1871). It deserves to be noted that the modern examples of Delorenzi and Nicolucci both have occurred in a region geographically near to that in which Garbiglietti's ancient Etruscan instance was met with.—J. B. DAVIS.

THE HILL RANGES OF SOUTHERN INDIA.—In 1868, Dr. John Shortt published "An Account of the Tribes of the Neilgherries," to which was added Col. Ochterlony's "Geographical and Statistical Memoir of the Neilgherry Mountains." Both these works had been originally written as "Reports" addressed to the Madras Government. Dr. Shortt made one capital addition to this publication in the form of an excellent photograph of a Toda family—a Toda man, woman, and girl. In continuation of this publication upon the Neilgherries and their inhabitants, Dr. Shortt has just issued from the Madras press another brochure entitled, "The Hill Ranges of Southern India, part ii." This, again, is edited by the same industrious hand, and, in accordance with his predilection, contains much anthropological matter. This second part embraces the Shervaroy Hills, the Kolly Mallays, the Chendamungalum Hills, and the Burgoor Hills. The first is by Mr. W. R. Cornish, to which Dr. Shortt has appended "An Account of the Mulliallies, or Hill men of the Shervaroy Hills"; that on the Kolly Mallays by Mr. W. King; the third by Dr. J. Kellie; and the last by the editor himself. Dr. Shortt's account of the Mulliallies commences

with figures of the patterns with which the women tattoo themselves on the brow, temples, cheeks, chins, and forearms, and is tolerably complete. "Some of the men are in the habit of filing their front teeth, but more frequently they are stained with *surmak*, the oxide of antimony, which fills up the interstices between the teeth, and gives the teeth themselves a black stain; others stain their teeth blood-red," which is effected by a tedious process that must be a tax upon the would-be fashionables. In the shorter account of the inhabitants of the Burgoor Hills it is said: "Some of them have fine Caucasian features, small well-formed heads, bright eyes, with an intelligent expression, and are of a light copper colour; whilst others are just the contrary, with large heads, flat features, and dark skinned, so much so that it arrests the attention at once on seeing a couple of these people together." Both the Mulliallies and these inhabitants of the Burgoor Hills are Hindoos and also Lingayets.—J. B. DAVIS.

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the middle finger. The numeral roots, independent of 3 and 7, are related in groups of inside or male fingers 2, 4, 8, 9, and of outside female or small fingers 1, 5, 6, 10; each pair is also related: 1 and 2, 4 and 5, 6 and 8, 9 and 10. In the distribution of the numerals among the various groups and races the transpositions take place chiefly within the groups; thus, 4 and 9 are transposed, 4 and 8, and also 1, 6 and 10. The system applies to the main groups included in what is called Turanian to Indo-European and Semitic, and embraces Malay and Coptic. 5 and 10 sometimes represent Hand, but not necessarily decimally, but as being the outside fingers of the hand 4 or 5.—HYDE CLARKE.

KIMMERIANS AND ATLANTEANS.*—At Easter, during a fortnight, I chanced to see five numerous collections of men in France and in England, who were sifted from the European population, and sorted in lots, chiefly by their mental peculiarities. They were brought together by their tastes, habits, opinions, and dispositions; by their laws, institutions, and nationalities. Thus seen in rapid succession and in juxtaposition, these sets of men differed materially and conspicuously in body as they differed in mind.

1. *Burnt Sienna and Orange*: "Kimmerians." Well grown, active, long-legged, russet, ruddy, fair, excitable, energetic men, with clear complexions, bright eyes, and lustrous metallic hair, abounded amongst officers in the French army, and did not abound amongst the rank and file of the army about Versailles.

2. *Raw Sienna and Yellow Ochre*: "Teutons." Big, strong, white, patient, placid, weak-eyed men, with pasty complexions and lint-like or yellow hair of inferior lustre, abounded amongst the German troops to the north of Paris, and there contrasted very strongly with the mass of the French people.

3. *Scopia and Brown*: "Atlanteans." Little, active, long-bodied, dark-eyed, dusky-skinned, dull-haired, fiery, suspicious, polite, excitable, drunken, unreasonable, unsteady, pugnacious, thoughtless men, abounded amongst the fighting Communists in Paris, and in a far less proportion in the regular army at Versailles.

4. The first and second types abound in great excess in and about Brighton, Dover, London, and amongst officers and men in the English troops of our army. They are coloured with warmer and brighter tints than French and Germans, in like classes.

5. *Brown and Black*. The third type, even more marked than it was in Paris amongst the Communists—sulky, cross, and uncivil to boot, was in great excess amongst the audience in Hyde Park on Sunday, the 16th April, but even there most of the orators and leaders were of the first and second types. One of them might have been a Viking or a German philosopher.

6. *Black*. One of the Communist orators was an American Negro, with crisp, lustreless hair, who talked fluent nonsense, and begged for

* This note is in the nature of a postscript to Mr. J. F. Campbell's remarks in discussion on Mr. Hector Maclean's paper on the "Kimmerians and Atlanteans" (p. lxi).

coopers in the midst of energetic treason and blasphemy, which the Aryan enthusiasts poured upon the non-Aryan crowd.

Taking the dull black as one end of a scale of prevailing colour, lustrous burnt sienna and transparent white are at the other. The first colour seems to belong to the Aryan type of Vedic age, and intermediate colours may indicate crosses between black and yellow men. The average Briton certainly has more burnt sienna about him than other Europeans; the dark Briton has less than the dark German, because breeds have mixed less in these islands, being kept apart. When disorder collects the disorderly non-Aryans, they show their colour, and contrast strongly and very unpleasantly with the Aryan element in the population of Britain and France. So it seemed to me at Easter time, 1871.—J. F. CAMPBELL.

*Nachtigal's Journey to the Tibbu-Reschâde.**—On the 6th of June, 1869, Dr. Nachtigal left Mursuk in Fezzan, and during a four months' journey penetrated into the heart of Tibesti, the land of the Tibbu-Reschâde. In the language of the Tibbu, the country of Tibesti is termed *Tu* (stone), and this word, combined with the Kanuri plural, ending *-bu*, gives *Tubu*, which is strictly speaking the correct form.

The Tibbu are described by the author as a people of middle stature, well built, with muscular limbs, having usually a deep bronze colour, but varying in different individuals from pale bronze to black. They possess no trace of Negroid physiognomy; and, indeed, the author concludes, that they are much more nearly related to the Berbers than to the Negroes—a conclusion supported not only by the study of their physical and psychical characters, but also by the observation of their social and political institutions.

Unlike the Negroes the Tibbu-Reschâde are a stern and reserved people. They are ruled over by a sultan, who has however only nominal power. Law is based on recognised customs, and can be administered by any noble without the intervention of the ruler. All public questions are discussed by a council of nobles, called *Mainoat*, under the presidency of the sultan.

The best habitations consist of enclosures of neatly-twisted branches of the date-palm, containing several more or less covered spaces, with a winter hut of earth and stone. Some of the dwellings, however, are merely low huts, with a framework of stakes of the talha tree hung with mats of the leaves of the dūm palm. Still ruder dwellings are formed of stones piled one upon another, or even of natural caves and hollows in the rocks. Most of these dwellings are separated widely from one another, and indeed Bardai is the only place which can be called a town; the huts being there grouped together in closed areas, and the inhabitants possessing sufficient date-palms to serve the whole year, whilst in most of the other centres of population the inhabitants change their dwellings at different seasons. Thus, when Nachtigal reached Tao, he found the place deserted—the only inhabitants being

* An account of this journey has been published in Petermann's *Mittheilungen*. Nos. i, ii, viii, 1870.

